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THE NEW YORK JOURNAL OF MEDICINE, AND THE COLLATERAL SCIENCES.

EDITED BY

SAMUEL FORRY, M.D.

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TO READERS, CORRESPONDENTS, ETC.

The additional matter furnished by Dr. Le Conte, we regret to say, came just after his article had got to press.

In consequence of some miscalculation, several reviews designed to appear in this number have been crowded out, as those of the Transactions of the New York State Medical Society, Nunneley on Erysipelas, Andral on Pathological Hæmatology, the Report on the Massachusetts Lunatic Asylum, and several other Reports from the same State, as the two annual Reports of the Registration of Births, Deaths, and Marriages, and the Address to the Members of the Massachusetts Medical Society, relative to a series of statistical investigations throughout the State, upon the subject of Medical Hygiène. It was the same circumstance that restricted our limits in the department of Foreign Intelligence.

A contribution has been received from Dr. Clarkson T. Collins.

We have to acknowledge the receipt of the following works:

A Treatise on Operative Surgery; comprising a Description of the various processes of the Art, including all the new Operations; exhibiting the State of Surgical Science in its present advanced condition; with eighty plates, containing 486 separate Illustrations. By Joseph Pancoast, M.D., Professor, etc. Philadelphia: Carey & Hart. 1844. (From the Publishers.)

Report on the Progress of Practical Medicine in the Departments of Midwifery and the Diseases of Women and Children, during the years 1842–3. By Charles West, M.D., Member of the Royal College of Physicians, Physician to the Royal Infirmary for Children, and Physician-Accoucheur to the Finsbury Dispensary. London: 1844. (From the Author.)

Fifty-seventh Annual Report of the Regents of the University of the State of New York. (From T. R. Beck, M.D.)

Annual Announcement of the Berkshire Medical Institution for the course of Lectures of 1844.

Circular of the Cleveland College, for 1843–4.

Address to the Graduating Class of the College of Georgia. Delivered on the 6th of March, 1844, by George F. Pierce. (From Dr. P. F. Eve.)

Proceedings of the Medical Society of the State of Tennessee, at the Fifteenth Annual Meeting, held in the City Hall, Nashville, May, 1844.

Eleventh Annual Report of the Trustees of the State Lunatic Hospital at Worcester. From Dr. Woodward.

Abstract of the Returns from the several Towns, Jails, and Houses of Correction, in this Commonwealth [Massachusetts], concerning the Condition of Pauper Idiots and Lunatics, in Alms Houses, Jails, &c., for the year ending Jan. 1, 1843. (From Dr. Jarvis.)

First Annual Report of the Secretary of the Commonwealth to the Legislature: Under the act of March, 1842, relating to the Registry and Returns of Births, Marriages, and Deaths in Massachusetts. Feb. 1843.

Second Annual Report of the same for the year ending May 1st, 1843. (Both from Dr. J. V. C. Smith.)

Address to the Members of the Massachusetts Medical Society upon the question of engaging in a series of Statistical and other Investigations, which would be advantageous to Medical Science and Public Hygiène.

A Treatise on the Nature, Causes, and Treatment of Erysipelas. By Thomas Nunneley, Lecturer on Anatomy, Physiology, and Pathology, in the Leeds School of Medicine, etc. Re-printed in Bell's Select Medical Library. Philadelphia. Ed. Barrington and Geo. D. Haswell. 1844. (From the Publishers.)

Since May, we have received the following Journals in exchange:

Zeitschrift für die gesammte Medicin, mit besondere Rücksicht auf Hospitalpraxis und ausländische Literatur. Herausgegeben von F. W. Oppenheim. Hamburg. Jan., Feb., March, April, 1844.

The British and Foreign Medical Review and Quarterly Journal of Practical Medicine and Surgery. January and April, 1844.

The London Medical Gazette. April and May, 1844.
The London Medical Times. April and May, 1844.
The Dublin Medical Press. April and May, 1844.
Provincial Medical and Surgical Journal. May, 1844.
The American Journal of Science and Arts. April, 1844.
The Bulletin of Medical Science. May and June.
The Boston Medical and Surgical Journal.
The Medical Examiner.
The Western Lancet. May, 1844.
The St. Louis Medical and Surgical Journal.
The Illinois Medical and Surgical Journal.
The New Orleans Medical Journal.
The Montreal Medical Gazette.

☞ All letters in regard to the *business* department of the Journal, and all remittances of money, should be addressed *exclusively* to the publisher, Henry G. Langley; but books for Review and Communications designed for publication, should be directed, *free of expense*, to Samuel Forry, M.D., Editor of the New York Journal of Medicine, care of Henry G. Langley. Persons at a distance may direct parcels, paid as above, under cover of Barrington & Haswell, Philadelphia, W. D. Ticknor, Boston, and Wiley & Putnam, London.

☞ Postmasters, it will be borne in mind, are authorized by law to frank letters containing money for the subscription of periodicals.

THE NEW YORK
JOURNAL OF MEDICINE.

FOR JULY, 1844.

PART FIRST.

Original Communications.

Art. I.—*Cases of Renal Disease treated in the New York Hospital, from January to April*, 1844. By John A. Swett, M. D.

The following report embraces the history of eight cases of that formidable disease of the kidney attended by dropsy and by the deposit of albumen in the urine. Different names have been assigned to it by those who have devoted most attention to its study. Thus, by Rayer, it has been called Albuminous Nephritis; by Christison, Granular Kidney; by Martin Solon, Albuminurie; by Prout, Serous Urine. But, as I believe that none of these names convey a true idea of the pathology of this disease, which may still be regarded as the subject of investigation, I have affixed to it the name of Dr. Bright, of Guy's Hospital, to whom belongs the merit of having first studied it in its true light, as a disease of the kidneys. I have added two cases of diabetes, both well-marked cases of a disease which, if not seated in the kidneys, yet acts most powerfully on the functions of those organs. It was my intention also to have included an analysis of the cases of pneumonia and other pulmonary diseases, which occurred during my attendance at the hospital, but time will not permit.

Case I.—*Bright's Disease, terminating fatally with vomiting and convulsions: latent pneumonia.*—Mary Burke, æt. 31 years, widow, born in Ireland, entered the New York Hospital, Nov. 27th, 1843. She was delivered of a healthy child on the 9th of March. Towards the latter end of the month, she began to complain of a dull, gnawing pain in the lumbar region, and pain in her limbs. She, at the same time, noticed that her urine was more pale than natural; her bowels were costive. Early in April, her feet became œdematous, one somewhat sooner than the other; the œdema gradually extending up the limbs and reaching the abdomen at the end of a month. Since this period, her general condition has continued nearly the same; the œdema, however, has gradually increased. About three weeks ago, she was attacked with a mild dysentery, which still continues. Her menses have not re-appeared since her confinement in March.

At the time of her admission, there was considerable œdema of the lower extremities, extending to the abdomen; pain and feeling of weakness in back; urine pale and quantity much increased; copious deposit of albumen by the addition of nitric acid; tongue slightly coated in the centre, moist, red and glossy at edges and tip; appetite good. Has had four passages from the bowels during the last twenty-four hours; thin, slimy, without blood; attended with pain and griping. Skin dry, and rather warm; pulse 100, small and weak. Sp. Nit. dulc. Syr. Scillæ, Mucilage. Morphine at night. Decoc. Querc.

December 5.—Anasarca continues as before; still complains of a dull, aching pain in the back, which is not, however, severe; passes from five to six pints of urine in twenty-four hours; dysentery continues, but with less pain; tongue clean, and of a bright red color; pulse 112, of moderate strength, jerking; skin dry and harsh; cough.

The treatment consists of an expectorant mixture to relieve the cough, with an anodyne at night. December 19th she began to use the argent. nit. (gr. ¼) in combination with opium gr. ss., continuing the expectorant mixture.

December 24.—Was seized at night with pain in the lumbar region shooting through the pelvis; soon afterwards vomiting of a dark matter ensued, with pain and tenderness in the epigastrium, and pain in the head; diarrhœa continues; tongue slightly coated; pulse 136, quick, weak, irritable; cheeks flushed; skin moderately hot. ℞ Pil. Hydr. grs. v. ter in die.

December 27.—Vomiting continued until this morning; tongue clean, bright red; still complains of pain in the epigastrium and in the head; pulse 116, quick; skin rather hot but moist; diarrhœa continues; six to seven stools in twenty-four hours. ℞ Pil. Hydr. grs. v. ter in die.

December 29.—Face flushed; headache severe; a good deal of nervous irritability; pulse 116, of moderate strength and compressible; skin rather hot and dry; tongue slightly coated; papillæ distinct; stools yellowish and watery; less pain in the back; œdema continues as before.

December 30.—Headache continues severe; cheeks flushed; frequent vomiting of bile mixed with depraved mucus; pain in epigastrium continues, increased by motion and by vomiting; stools less frequent, but light-colored and watery.

January 1.—Attacked with convulsions last night, the vomiting of a greenish yellow fluid continuing. Death ensued in a few hours.

Post-mortem examination, twelve hours after death. Head not examined.

The right lung was almost entirely affected with pneumonia in the first and second stages; the left lung was healthy.

The stomach, when opened, presented the mucous membrane of a greyish color, mamillated, rather thickened, but without softening; intestines healthy; the liver presented the first stage of cirrhosis.

The kidneys, surrounded by a good deal of fat, were much enlarged (two-thirds); of an uniform pale yellow color, with a few vessels only ramifying on the external surface. On removing the capsule, the surface of the kidney was smooth; and, on a close examination, granulations of a deeper yellow tint than the surrounding portions were noticed. Dividing the organ, its substance appeared softer than natural, flabby and watery; the cortical portion was hypertrophied, and presented distinct granulations. The tubular portions were very distinct, of a livid red color, deformed, diminished in size, with their bases spread out, and the fibres separated, from the encroachment of the cortical substance; pelves of the kidneys and ureters natural.

The condition of the kidneys was carefully noticed in the post-mortem examination, and it is on this account that the case appears most worthy of notice, as presenting a well-marked specimen of this new and interesting disease. It is to be regretted that the head was not examined; but, judging from the experience of other cases, it is not probable that any marked anatomical changes would have been noticed. The nervous system seems to be poisoned by the morbid condition of the kidneys, and the most violent cerebral symptoms, as convulsions and coma, may ensue, without leaving any anatomical lesion behind them. The stomach presented the appearances of chronic inflammation, yet the symptoms were recent and acute. The liver, like the kidneys, was more or less granular. This coincidence of granular kidney and granular liver has been very frequent in my observation of these diseases. Indeed, I think no one can examine carefully the two diseases without being struck with their great resemblance at least, if not induced to believe in their common nature. The extensive but latent pneumonia which occurred in the above case is also worthy of notice.

Case II.—*Bright's Disease in a patient with tubercular phthisis: latent.*—An Irish laborer, æt. 21 years, had been affected with the ordinary symptoms of phthisis for nine months; the last three months were passed in the hospital. During this period he presented no symptoms that attracted the least suspicion of disease of the kidneys. For a short time previous to his death, slight œdema of the feet had existed, a symptom not very unusual in the latter stage of phthisis. His death was sudden. He had been up and walking about the room during the evening as well as usual. After retiring to bed, he was heard to breathe with difficulty, and died in an hour or two with slight convulsions.

On *post-mortem examination*, twelve hours after death, the brain was found natural; the lungs were the seat of extensive and advanced tuberculous disease, abscesses existing in both lungs.

The kidneys were both enlarged, the largest weighing 12 oz. 6 dr.; its length was 6¼ inches, its breadth 2½ inches. These organs were congested, firmer than natural, and lobulated. The external coat, on being removed, presented nothing unusual. The external surface of the kidney was smooth, but presented numerous vessels much enlarged: *no granulations.* Internally, the two structures were much more red than common. The cortical portion appeared more coarse than natural, and so much thicker than usual, as to encroach very much upon the tubular portions, and to contract and deform them in a striking manner. On a minute examination, no granulations could be discovered internally; the pelves were natural, as also the bladder, which contained about half an ounce of reddish, turbid urine, yielding undoubted evidence of albumen by heat and nitric acid.

The unexpected condition of the kidneys in the above case, and its exact correspondence with what is noticed in other cases of Bright's Disease, notwithstanding the absence of granulations, a condition by no means regarded, at the present time, as necessary to the disease, led me to test the small quantity of urine found in the bladder, and thus to establish the true nature of the complication. The small quantity of turbid urine, in connection with the highly-congested state of the kidneys, may serve also to explain the sudden death, by rendering probable a sudden suppression of the urinary secretion from congestion, and a poisoning of the nervous system, a circumstance not unusual. The existence of convulsions before death, and the entire absence of any other cause of sudden death, on a careful examination of the lungs and other organs, seems to me to confirm this view of the case. The absence of any apparent lesion of the brain, so far from weakening this opinion, tends to confirm it; for it has been repeatedly noticed in Bright's Disease, that the most marked cerebral symptoms, as convulsions and coma, may exist towards the close of life, and yet no organic lesion of the brain be discovered after death. This has led to the inference that the functions of this organ have been deranged, overwhelmed, or, to use a stronger expression, *poisoned*, by the excess of urea in the blood, or of some other noxious agent which the diseased kidneys have failed to separate from it.

Case III.—*Bright's Disease occurring in the course of phthisis, and terminating fatally, by the supervention of a double pneumonia.*—John Chapman, æt. 37 years, native of Ireland, bath-keeper, was admitted to the New York Hospital, February 20th. His constitution is good, and he has generally enjoyed good health, although his habits are irregular; has had gonorrhœa, but not syphilis. For four years past he has been subject to cough, which, however, has not been constant. Three months ago he was seized with a hard, dry cough, dyspnœa, and with hoarseness, followed by soreness in the throat and difficulty in swallowing; no hemoptysis, no pain in the chest; emaciation and loss of strength moderate; no disposition to night sweats; pulse 120, regular, sharp. Dullness on percussion under both clavicles, most marked under left; respiration rude, with mucous rattle at the summit of the left lung; feeble at the summit of the right; natural at the base of both lungs.

The patient, being affected with phthisis, was not regarded as a proper object for the hospital; but, being reluctant to leave, he was allowed to remain, although not as under treatment. About the first of March, ten days after admission, his face became œdematous; in four or five days this was followed by œdema of both feet, and by ascites; increased dyspnœa; cough more troublesome. March 9th, when the dropsical symptoms first attracted attention, the œdema of the lower extremities was considerable, extending up to the knees, the abdomen prominent and fluctuating, the face pale, swollen, œdematous; no effusion into the cavities of the chest; pulse 88, regular; skin warm. On being questioned closely, no exciting cause of the dropsy could be discovered; the patient had remained quiet in the ward on simple diet, without exposure, and, at the time of the attack, was as well as usual and in good spirits. The heart, on examination, gave no evidence of disease. Urine of a high red color, turbid, with a flocculent deposit, not materially altered since the dropsy commenced. Coagulates abundantly by the application of heat and nitric acid. No pain or tenderness in the region of the kidneys. States that seven years ago he had some renal difficulty, from which he has since been entirely free, but no dropsy until the present attack. Bowels loose; no vomiting; head not affected.

The patient, being regarded as affected with the acute form of Bright's Disease, was ordered an active antiphlogistic treatment.

March 10.—Patient lost from the arm yesterday about ℥ xxx. of blood, without faintness: blood highly buffed and cupped; also ℥xvi. this morning, by cups over the loins. Pulse 92, soft; skin cool; tongue thinly coated white; urine muddy, of a dark cherry-red color, not diminished in quantity. Warm bath; low diet.

March 11.—Dropsy increased except in the face, which is less swollen; was kept awake last night by his cough, otherwise feels easier. Pulse 88, soft, regular; slight thirst; urine still turbid and high-colored, resembling beer in appearance: two pints in twenty-four hours; no pain or tenderness over kidneys. Cups to loins.

March 12.—Dropsy diminished except in abdomen. Eight stools, thin, watery, without tenesmus; has had a diarrhœa for four or five days, following a purgative. Skin dry, as it has been for a year past; tongue moist; pulse 96, soft, feeble. Urine turbid, of an olive-green tint; tested by heat, it yielded much less albumen than at first; none by nitric acid; quantity as yesterday. Camphor grs. iii. Pulv. Dover. grs. vi., every six hours. Warm bath.

March 19.—The antiphlogistic treatment, viz., cups to loins every two or three days, the frequent use of the warm bath, Dover's powder, and low diet, has increased the comfort of the patient, but has not diminished the dropsy; on the contrary, this symptom has rather become aggravated. Pulse 100, soft, regular; skin cool; urine, two pints in twenty-four hours. Supertart. Potass ʒi.; Tinc. Digitalis gutt. xx., every four hours.

March 21.—Dropsy increased, legs much swollen, and tender on pressure; anasarca extending to nates and to the abdomen; none in upper extremities. Eight stools, thin, watery, without griping; skin natural; pulse 88, soft; no pain in the loins. Kept awake all night by a dry, distressing cough. Add Dover's powder, grs. x. at night.

March 22.—Urine, four pints in twenty-four hours, of a dark brown, smoky appearance. An eight-ounce vial filled with it, and treated with nitric acid until no more flocculi of albumen are formed, presents, after standing twenty-four hours, a sediment of albumen one-third of an inch in thickness. Thirst considerable; three watery stools; pulse 120; skin cool.

March 26.—Complains of a tired sensation over kidneys, but no tenderness.

March 30.—Dropsical symptoms continue the same; no uneasiness in the region of the kidneys; urine of a reddish tint, deposits, on standing, a bright pink flocculent sediment, resembling coagula of blood; two pints in twenty-four hours. Pulse 90, full, no fever; appetite good. Omit the Supertart. of Potass and Digitalis, which, on the 26th, had induced pain in the epigastrium, and nausea, with dizziness. Apply cups to the loins.

April 10.—Since the diuretics have been suspended, and without any other treatment than Dover's powder, the urine has decidedly increased in quantity, the patient passing from three to four pints in twenty-four hours. April 2, the specific gravity of the urine was first ascertained; it was found to be much below the natural standard, the patient passing about two and a half pints of urine, slightly acid, in twenty-four hours. Decoc. Apocyni. Canab. with Pulv. Dover, grs. x. at night.

April 17.—The decoc. of apocynum, continued two days, induced great nausea, it was therefore omitted. Yesterday a profuse watery diarrhœa came on without apparent cause, without pain; on the contrary, with a feeling of relief. Pil. Opii. gr. i.; ter in die.

April 20.—Diarrhœa continues. Erysipelas has appeared on the face. Has been using, since the night before last, Persesquinitrat. ferri ʒi.; Aq. ℥i.; M. ʒi.; ter in die.

April 21.—Erysipelas spreading over face; respiration hurried and much oppressed, thirty-six in a minute; no pain in chest; skin warmer than natural; pulse 128, quick, rather small, regular. Diarrhœa continues, dropsy of abdomen diminished, œdema of legs as usual. Speaks in a low whisper. Lot. Acet. plumb. et opii to face.

April 22.—Oppression in breathing much increased, orthopnæa; urine not diminished in quantity. Death ensued during the night, without coma or convulsions.

Post-mortem examination, eleven hours after death. Brain healthy: moderate subarachnoid effusion. Heart and pericardium healthy.

Both lungs presented numerous tubercles in their different stages. The right lung adhered universally to the chest by old false membranes. Several small recent cavities existed at its summit. The left lung was less affected, although small cavities existed at the summit of this lung also. Pneumonia, in the first and second stages, occupied the lower lobes of both lungs.

In the larynx, the vocal chords were nearly destroyed by ulceration, which had penetrated into and disorganized the ventricles. A linear superficial ulcer existed on each side of the free edge of the epiglottis, laying bare the cartilage; the upper and lower surfaces of the epiglottis were healthy; trachea and bronchi red from congestion.

The cavity of the peritoneum contained about a gallon of straw-colored serum; its surface presented a considerable number of tubercles mixed with granulations of coagulable lymph. The liver appeared rather pale and granulated. The mucous membrane of the intestines, somewhat injected, presented a few ulcers at the lower portion of the ileum. Stomach, large intestines, healthy.

The kidneys were rather above the natural size and pale, rather flabby, but of their usual consistence. The external coat was healthy, separating easily from the parts beneath, except at one portion, where it was closely adherent. The surface of the kidney, as viewed after the external coat was removed, appeared of a pale yellow color, mottled with numerous small but distinct bright red spots, and small veins branching and interlacing with each other. Internally, the organ presented the same general appearance; the cortical substance being of a pale yellow color, mottled with small red spots, and possessing its usual thickness. The tubuli were not deformed, but were dotted with red points, like the cortical portion. *No granulations were found.* In one spot, a few small deposits of lymph were noticed. The pelves were natural.

These three fatal cases, although insufficient to illustrate all the varieties of morbid change in structure that occur in this disease, may yet serve to indicate some important points in its pathology. In every case the kidneys were evidently the seat of disease, but in only one case (Burke) were granulations observed. In this case, the disease had gone on to its natural termination, after having existed at least nine months. In the two remaining fatal cases, in which the disease existed as a complication of phthisis, the duration was probably very short; in one case (Chapman) not more than seven weeks. These facts confirm the opinion now generally admitted, that the granulations, which form so striking a feature in most of the advanced cases of the disease, are not essential to its existence, but are to be regarded as among the secondary changes that attend its progress. Dr. Graves, of Dublin, has advanced the very ingenious idea that these granulations are portions of albumen that have been arrested and deposited in the structure of the kidney. But the fact that, even in the most marked cases, albumen is not found existing in a separated state in the urine, as well as the co-existence of a similar condition of the liver (Burke, Chapman), will not allow us to attach much value to this opinion. It is by studying the cases that terminate early in their progress that we should expect to arrive at the most correct notions of its pathology. In many of these cases (Chapman) we find the kidneys the seat of congestion, and the cortical substance not only more vascular, but increased in thickness. This has led to the opinion that inflammation is the first step in the chain of morbid actions, and has induced Rayer to call the disease Albuminous Nephritis; a peculiar inflammation, as this author is obliged to admit, since, in simple nephritis, the symptoms, &c., are quite different. Dr. Prout, however, in the late edition of his excellent work on diseases of the kidney, denies entirely the correctness of this view, and regards a degeneration of the kidney, independent of inflammation, as the true cause of the disease, looking upon the congestion of the kidney as an accidental circumstance which may occur or not. Indeed, he regards a deficiency of blood in the kidney as quite as likely to attend the early stage, admitting, however, as in the form following scarlatina, an inflammatory condition of the kidneys and of the general system as an occasional cause. It would appear, then, that in this disease, as well as in other grave affections of the kidneys, diabetes, for instance, no constant appreciable organic change has yet been discovered to enable us to fix with precision its true nature, an ignorance which will be the more lamented when we consider the opposite character and inefficacy of the present modes of treatment.

Case IV.—*Bright's Disease, treated by Diuretics.*—Elisha Lynch, seaman, native of Maryland, æt. 24 years, was admitted to the New York Hospital, January 27th. He had generally enjoyed good health, with the exception of an intermittent fever every autumn for several years past. Last autumn he contracted the same disease at Wilmington, North Carolina, but was entirely cured, and remained well for six weeks before his present attack. About a week before last Christmas he began to notice a swelling of the feet, which continued to increase. Two weeks ago his abdomen began to enlarge, accompanied with occasional palpitations, vomiting, and a disposition to cough.

At the time of admission, the most marked general anasarca existed; no portion of the external cellular tissue was free from it. It was firm, pitting but little, and rather tender. Abdomen much distended and fluctuating; countenance pale, much swollen; heart natural; mucous rattle over the posterior portion of the lungs; urine of a smoky appearance, acid, depositing albumen abundantly by heat and by nitric acid; rises several times at night to pass his urine. States that he was in the hospital at New Orleans last winter for what was supposed to be lumbago, and that, a few days before the dropsy commenced, he had slight pain in the back, which lasted only a week. Now complains only of slight tenderness on pressure over the right kidney.

January 29.—Urine one and a half pints in quantity yesterday. Supertart. Potass. ʒijs., Tr. Digitalis gutt. xv., every six hours. Soup diet.

February 5.—The supertart. potass., even when the dose was diminished one-half, produced pain in abdomen, griping, and occasionally vomiting; the free purging that attended affording no relief to the dropsical symptoms; urine very muddy; specific gravity less than natural. Decoc. Apocyni Canab., a wine-glass every six hours.

March 21.—The patient has continued to use the apocynum regularly up to the present time. It has acted regularly upon the bowels, producing from four to six watery evacuations in twenty-four hours, and usually without pain or griping. But it has had no material influence in diminishing the dropsical effusion, or by increasing, or, in any way, improving the urinary secretion. The patient has, at times, been much annoyed by the accompanying bronchitis, also with dull pain in the head and dizziness. Towards the latter end of February, these cerebral symptoms were so marked, and the quantity of urine so small, that an attack of coma was apprehended, and the patient was cupped upon the temples; he was also occasionally relieved by epistaxis. The skin being habitually dry, the warm bath was freely used, but without benefit. The region of the kidneys continued free from pain or tenderness on pressure. The diet was simple, consisting of soup, milk, &c. To-day the following is his condition. Passes comfortable nights, being obliged to rise twice to pass his water; urine of a smoky-brown tint, about two pints in twenty-four hours; deposits albumen freely with nitric acid; œdema extends over every portion of the surface except the shoulders and arms; abdomen full and fluctuating; complains, for the first time, of some tenderness over the left kidney; states that a fortnight ago he felt some uneasiness there; appetite good; no thirst or nausea; tongue natural; three or four stools in twenty-four hours, not watery; pulse 92, soft, rather feeble, regular; skin dry; some cough, with trifling expectoration; mucous rattle gone. Omit the Apoc. Canab.

May 11.—The patient discontinued all remedies until April 1, when he came in charge of my colleague, Dr. Griscom; his dropsical symptoms were then very marked and troublesome, and he passed only about one pint of urine in twenty-four hours. He commenced the use of calomel gr. ss., Pulv. Scill. grs. ii., three times a day, which soon induced slight tenderness of the gums, but no relief followed. The respiration was much oppressed from the accumulation of fluid in the abdomen and from an increase of the bronchitis; the pain and dizziness in the head, with ringing in the ears, were again present; the urine continuing much less than natural, one and a half pints in twenty-four hours. On the 6th, he was tapped, and three gallons of fluid drawn off with great relief. On the 11th, he commenced the use of Corros. Sublim. gr. i., Tinc. Cinchon. ℥i., a teaspoonful every four hours, combined with an expectorant mixture. This remedy acted decidedly as a diuretic, and has almost entirely removed the dropsical effusion, slight œdema of the feet only existing at the present time. The patient is pale and his countenance morbid, but he is free from all pain, except an uneasiness over the region of the kidneys occasionally, and some slight tenderness. He eats and sleeps well, and is active; is nearly free from cough, and his skin has become moist. The urine, however, has not proportionally improved; it is much increased in quantity, about four pints in twenty-four hours, but still rather smoky and pale, of a specific gravity much less than natural, less even than soon after his admission, and still depositing albumen freely. He continues the Corros. Sub. and Tr. Cinchon., a teaspoonful every two hours, without affecting the gums.

May 30.—Discharged entirely free from dropsical symptoms and much improved in appearance, but with no improvement in the urine.

Case V.—*Bright's Disease, treated by Diuretics.*—Nathan Beckwell, colored seaman, æt. 28 years, entered the New York Hospital, January 30th, 1844. The patient is a man of good constitution, in the habit of indulging moderately in the use of spirits, and has usually enjoyed good health until about two years since. A year ago, he contracted rheumatism which continued two or three months. During the past summer he suffered from headache, night sweats, attended with emaciation. About two months ago, he contracted a cough followed by dyspnœa, palpitation, indigestion, and occasional diarrhœa. A short time previous to the cough he noticed that his ankles were swollen, attended with pain; the swelling afterwards extending to the arms and face, with irritability of the bladder, compelling him to rise five or six times during the night (has been for a long time accustomed to rise once or twice during the night). He now complains of anasarca of the whole lower extremities, which are painful and tender to the touch, with some effusion into the peritoneal cavity, but without swelling of the face or upper extremities. Pulse 90, soft; skin dry and cool; tongue slightly coated, moist; thirst; appetite and digestion good; bowels rather loose; heart natural; no effusion into the chest; dry cough, with some soreness of the chest; no tenderness on pressure over the region of the kidneys; urine increased in quantity, five pints in twenty-four hours, slightly acid; deposits albumen abundantly by heat and by nitric acid; is obliged to rise frequently to urinate; supertart. potass. ʒ ii., tinc. digit. gutt. xv., ter in die.

March 9th.—The medicines have induced little or no purging, but materially increased the quantity of urine, this being at one time as great as twelve pints in twenty-four hours (February 19th), attended with a marked improvement in the dropsical symptoms, the swelling in the abdomen entirely subsiding, and the anasarca of the lower extremities extending only to the knees. The cough also disappeared, the skin continuing cool and rather dry; no tenderness over kidneys; appetite moderate; thirst. The urine, however, still continuing to deposit albumen abundantly, to be slightly acid, or nearly neutral at times, clear, resembling, in color, new cider. For the last ten days, however, the diuretic effort has diminished (five pints in twenty-four hours), although the digitalis occasionally induced nausea; the dropsical symptoms have increased. Omit diuretics—elaterium gr. $\frac{1}{4}$, every four hours.

March 21st.—The elaterium in small doses induced purging, but with griping and vomiting; it was therefore omitted. The decoc. apocyni also disordered the stomach and could not be continued. The diuretic decoction rather increased the quantity of urine and diminished the dropsy, but not materially. He now has good appetite and digestion; some thirst; bowels regular; no cough; pulse 92, soft; skin cool and dry; feet and legs œdematous, the swelling extending slightly up the thighs to nates and back; rises three times at night to urinate; urine about four pints in twenty-four hours, clear, resembling new cider; still depositing albumen freely; no tenderness over the kidneys.

When I ceased attending him, April 1st, no further improvement had taken place; the urine of a much less specific gravity than natural, was in all respects as above described; the dropsical symptoms continuing. His feelings, generally, however, had so much improved that he requested a discharge, April 19th.

CASE VI.—*Bright's Disease, treated by Purgatives and by Diuretics.*—Peter Horn, æt. 33 years, born in Sweden, seaman, of good constitution, entered the New York Hospital, November 15th, 1843. He arrived from Hamburg four months ago, where he had been six weeks in the hospital with chronic rheumatism, for which he was salivated. He has twice been in the Sailor's Retreat with the same disease. He complains now of rheumatic pain in the shoulders and back, also in the inferior extremities, which are *œdematous;* tongue coated, brown in the centre; pulse natural; bowels regular; both hypochondria tender on pressure; complains of dyspnœa in exertion. Sol. hyd. potass., which relieved the rheumatic pains somewhat. He was afterwards, December 22d, ordered Pulv. purgans.

January 7th.—The patient was, for the first time, carefully examined by me since my attendance. His rheumatism had nearly left him. He still complained of an aching sensation, with deep-seated tenderness, on pressure, over the loins. His pulse was calm and soft; skin moist; tongue slightly coated; digestion good. His urine was about two quarts in twenty-four hours, rather smoky in appearance, acid, coagulating by heat and nitric acid. He was still using the Pulv. purgans (jalap and supertart. potass.) in purgative doses.

January 18th.—The Pulv. purgans has ceased to purge him; thinks the swelling of the legs has somewhat diminished. Ordered elaterium gr. $\frac{1}{4}$, bis in die.

January 27th.—The elaterium, although it produced a favorable cathartic effect on the bowels, did not seem to exert any material influence on the dropsy, although the quantity of urine was perhaps rather diminished, the quantity of albumen continuing about the same. Appetite good; digestion easy; pulse natural. Omit the elaterium. Commence supertart. potass. ʒijs., tinc. digitalis gutt. xv., ter in die.

February 11th.—Remedies have produced slight purging with griping. Urine about the same in quantity. Complains of increased weakness in loins, with some tenderness on pressure; also of some dizziness; rises two or three times at night to pass his urine; appetite good; no thirst; pulse natural. Omit remedies.

Urine examined carefully the next day, was found as follows: two quarts in twenty-four hours, smoky in appearance, alkaline, deposits albumen abundantly by nitric acid, but none by heat until acidulated by acetic acid. Ordered corros. sublim. gr. $\frac{1}{8}$, tr. cinchonæ ʒi., ter in die, to be gradually increased.

February 28th.—Urine continues about the same; some pain and tenderness in the loins; pulse 80, soft; skin moist, as before. Continue medicine.

March 31st.—At this time I ceased to attend him. His urine had diminished in quantity, two or three pints in twenty-four hours; he had ceased to rise at night to pass it; its color had much improved, having lost its smoky appearance, and had become acid; the œdema of the legs had diminished, but still existed slightly; the countenance and complexion had improved; the pulse was nearly natural; the appetite good; the uneasiness about the kidneys trifling, but the specific gravity of the urine was much less than the natural, less even than when the general symptoms were more marked; and the quantity of albuminous deposit as great as ever (an eight ounce vial filled with urine and treated with nitric acid until no more flocculi are thrown down, presents, on standing twenty-four hours, a deposit occupying one quarter of the vial). Has continued the corrosive sublimate and tr. of cinchona.

May 11th.—The patient came under my care again. He now complains of constant dull pain over kidneys, increased by stooping, but of no tenderness on pressure; his appetite is moderate; bowels occasionally constipated; pulse natural, no fever; is rather losing strength; slight œdema of the feet; urine natural in quantity, of an amber color, a little smoky, acid; still deposits albumen abundantly; specific gravity less than natural, as at the last examination. Has continued the tr. cinchona and corrosive sublimate.

Case VII.—*Bright's Disease, treated by Purgatives.*—G. W. Jennings, colored seaman, born in New Jersey, æt. 37 years, of rather delicate and slender frame, entered the New York Hospital, December 27th, 1843. Early in August last, he was attacked with rheumatism, which continued to affect different joints in succession, for about two months, when his feet were observed to swell, the swelling rapidly extending up the legs to the knees, accompanied by a feeling of weakness and stiffness in the loins. The swelling was reduced in about a week by the use of linaments, but returned again in two weeks. At this time, he complained of a dull fixed pain in the loins; since this time the swelling has never left the lower extremities. About a month ago, the swelling being considerable, and the pain in the loins increased, he first observed that his urine was increased in quantity. Since this time, his urine has gradually increased in quantity, the pain in the loins become more marked, and the swelling extended further up the lower extremities. He now passes about eight pints of rather high colored urine in twenty-four hours; the legs are œdematous; and there is a dull gnawing pain in the lumbar region; pulse 96. The urine deposits albumen by nitric acid, *but not by heat*, owing probably to its being alkaline. Sol. iod. potass. (5 grs. every six hours).

This patient was treated by purgatives. He was ordered Pulv. purgans (jalap and supertart. potass.), and afterward elaterium, but neither of these remedies operating favorably, he was ordered, January 28th, a purge of senna and salts, every second day, which usually induced three or four stools, without pain. Under this treatment the swelling gradually diminished, but without any decided change in the urine, except that instead of being alkaline, as noticed soon after his admission, it had become acid. About the 1st of March the urine was observed to diminish in quantity to four or five pints in twenty-four hours, and to present a clear amber color, still depositing albumen by heat and nitric acid; no tenderness or pain in the loins: the senna and salts producing three or four stools. His feelings, generally, were rather improved, but he complained of increased weakness; pulse 116, soft; skin cool, rather dry; no thirst. At this time, he complained of pain shooting around the loins to the testicles, which became enlarged and painful, for which he was confined to his bed, and tobacco poultices applied. At the end of

March the quantity of urine continued to be four or five pints in twenty-four hours, acid, specific gravity much less than natural, and still depositing albumen abundantly by heat and by nitric acid. The inflammation of the testicles had nearly subsided.

May 11th.—Appetite and digestion good, rather gaining strength; no pain, but slight tenderness over the region of the kidneys; œdema of the feet about as before; pulse natural, soft; urine clear and natural in appearance; three pints in twenty-four hours; decidedly acid; specific gravity much less than natural, rather less than a month ago; still deposits albumen as freely as ever both by heat and by nitric acid. Has continued to be purged moderately every other day by the senna and salts. Diet, soup, milk, &c.

CASE VIII.—*Bright's Disease, Enlargement of the Heart, treated by Diuretics and Purgatives.*—Charles Matthews, æt. 28 years, waiter, native of Ireland, was admitted into the New York Hospital, March 23d. The patient is of good constitution, but formerly intemperate. Three or four years ago he had suffered from diarrhœa for six months, which was then cured. For three years has suffered from palpitations, and for two years from dyspnœa. He has also suffered from pain over the precordial region, for which an issue was applied, but without relief. About three months ago his feet swelled, soon extending to the abdomen, and afterwards to the face.

He now has œdema of the lower extremities, extending, slightly, to the abdomen and nates; œdema also of the face; slight effusion into the peritoneal cavity; pulse 96, regular, of moderate strength; respiration somewhat oppressed; tongue natural; apex of the heart strikes between the sixth and seventh ribs below and a little outside the nipple; increased dullness on percussion over the precordial region; sounds of heart natural; impulse moderate; urine deposits albumen freely by heat and by nitric acid. States that, in November last, he had pain in the right lumbar region, increased by walking and stooping, also by the sitting posture, which continued about two weeks, and has returned occasionally since, and is not affected by motion; tenderness, on pressure, anteriorly over the kidneys, but none posteriorly. States that, six weeks ago, he was obliged to rise and urinate at night, but that this has ceased. Elaterium gr. $\frac{1}{4}$, ter in die.

This patient passed from my care, April 1st. The elaterium had operated freely and favorably upon the bowels, reducing the dropsical effusion; the urine was about natural in quantity, slightly acid, rather high colored, of diminished specific gravity, depositing albumen.

May 18th.—The patient has been using, since last report, elaterium, at intervals; also the diurectic decoction, but with no very marked effect on the dropsy. Indeed, on careful examination yesterday, it appeared about the same as at the time of admission. The urine is now over three pints in twenty-four hours, rather less clear than natural, but not smoky, amber color; of diminished specific gravity, as when first examined; and deposits albumen freely by heat and nitric acid; no pain or tenderness over kidneys; not obliged to rise at night to urinate; no thirst; appetite moderate; bowels regular; pulse accelerated, rather feeble; heart without increased impulse or abnormal sound, but apex striking too far to the left; very little complaint of dyspnœa or palpitation.

In reviewing the symptoms detailed in the foregoing cases, none are more striking and constant than the dropsical effusion. It is this that usually brings the patient to the hospital, and which attracts the chief attention of the physician. In some of the cases (Lynch, Beckwell, Chapman), it was excessive, occupying the subcutaneous cellular tissue generally, as well as the cavity of the peritoneum, but in no case was its existence detected in any other of the serous cavities; while in other cases (Jennings, Horn) it was very trifling in amount, affecting the lower extremities only to a moderate degree, and accompanied by tenderness, or not, according to its degree. If the story of the patients can be believed, the effusion first occurred in the feet, as in dropsy connected with disease of the heart, and, contrary to the opinion of Rayer, who states that it usually begins in the face. It should, however, be remarked, that in the only case (Chapman) where the dropsical symptoms developed themselves in the hospital, and where their progress could be carefully watched, the face was first affected, while in mild and advanced cases there can be no doubt that the effusion is usually confined to the lower extremities.

In none of the cases, except that of Chapman, was there any evidence of inflammatory action as exhibited either by the general or local symptoms. The pulse, indeed, was usually accelerated, but soft and feeble; the skin cool. The patients did not complain of pain over the regions of the kidneys, although pressure not unfrequently revealed tenderness there. The impression one would naturally derive from watching the condition and progress of these cases, is, that the vital powers are slowly becoming exhausted under the influence of some degenerating cause with which inflammation and irritation have nothing to do.

The condition of the urine was carefully examined in all the cases. As a general rule, it rather exceeded the standard of health (two and a half pints), but unless under the influence of diuretics, this difference was not marked. In one case (Lynch) it fell below the natural standard. Its color varied, in different cases, being sometimes higher, sometimes lower than in health. But it uniformly presented one appearance, which has appeared to me characteristic, and which has enabled me, in more cases than one, to predict the existence of albumen. This is a *smoky appearance* which, when very marked, gives the urine a muddy look. Even when the urine is paler than natural, this smoky vapor, as it were, diffused through it, prevents the bottom of the vessel from being distinctly seen as in healthy urine. This appearance is, perhaps, produced by partially dissolved mucus or albumen, which, however, does not, after standing, assume the appearance of a sediment. In only one case (Chapman) was a distinct sediment of any kind noticed in the urine. The secretion was usually acid, as tested by litmus paper, although rather less so than in health. In two cases (Jennings, Horn) it was temporarily alkaline. Its specific gravity was uniformly less than in health, and it invariably deposited albumen abundantly by heat and by nitric acid. In the cases where the urine was alkaline, it did not deposit albumen by heat until it was acidulated by acetic acid; but after it had regained its natural acidity, in the progress of the case, the usual effects from heat were noticed. The method employed to ascertain the quantity of albumen was simple, and sufficient for practical purposes. An eight ounce vial was filled with the urine; nitric acid was then added until no more deposit took place; the whole was then allowed to stand twenty-four hours, and the thickness of the sediment measured. In all these cases, whatever were the remedies used, and whatever their effects upon the appearance and quantity of the urinary secretion, and upon the dropsical and other symptoms, *the specific gravity of the urine uniformly remained low, and the quantity of albumen was undiminished.*

The causes that produced the disease, in these cases, although carefully searched for, completely escaped observation. Several of the patients were sailors, and had been exposed to the hardships of that mode of life. Rheumatism not unfrequently preceded the attack, or co-existed with it, but appeared to have no necessary connection with it. Only one patient confessed himself intemperate in his habits, and this had been abandoned many years before the attack. In two instances the disease developed itself in the course of tubercular phthisis, and in one existed with organic disease of the heart. Even the exciting causes of the attack equally escaped observation. That frequent cause, according to Dr. Bright, exposure to cold by lying on a damp surface, was not found to exist. Indeed, in the case of Chapman, the patient was unusually protected from all the supposed exciting causes of the disease, being attacked while in the hospital, and not under treatment of any kind, and well protected from every kind of physical exposure.

In the treatment no uniform plan was adopted. The principal indication seemed to be the removal of the dropsical effusion. Different methods, as recommended by the best authorities, were resorted to, and, it must be confessed, with very indifferent success. In the chronic cases, which embraced all but one, the purgative plan, administering such purgatives as, by inducing free watery evacuations, are frequently beneficial in other forms of dropsy, as elaterium, supertart. of potass., &c., was adopted, but was usually soon abandoned, from its creating too much intestinal irritation. Diuretics were also freely used, but with no better success; for, although they sometimes increased the quantity of urine, and diminished the dropsical effusion, yet these effects were neither marked nor lasting. In a single case, however (Lynch), the oxymuriate of mercury, in alterative doses, acting powerfully as a diuretic, carried off the dropsy, after other medicines, both diuretic and purgative, had failed; improving, at the same time, in the most marked manner, the general health of the patient, although failing entirely to produce those changes in the condition of the urine, viz., increase in the specific gravity, and a diminution in the quantity of albumen, without which no real progress towards a cure can have taken place. Diaphoretics, as Dover's powder, the warm bath, were used in combination with other remedies, but without sensible good effects. Cupping to the loins was also used when tenderness or pain existed there. The diet was mild, and such as could be easily digested, and varied according to the condition of the patient. In the single acute case (Chapman), in which the presence of inflammatory symptoms seemed to indicate an antiphlogistic treatment, general and local bleeding, warm bathing, diaphoretics, with low diet, were actively resorted to, but with no marked good effects.

CASE I.—*Diabetes, relieved by animal diet and phosphate of Iron.*—William Sweetser, shoemaker, æt. 31 years, native of Massachusetts, entered the New York Hospital, December 1, 1843. He stated that he had habitually enjoyed good health, and had been temperate in his habits except in the use of tobacco. For two years, he had complained of a sensation of weakness in the lumbar region, and even before that period, for five or six years, he had observed occasional pain in this region on any sudden exertion of the part, as when going down a flight of steps with too little care. During this time, however, he had observed no disturbance in the urinary secretion. In January last, he began to notice that it was increased in quantity, and that he was obliged to rise at night to void it. During the following spring, after having for some time passed five pints in twenty-four hours, he thinks that it returned to about its natural quantity. In July last, however, it began again to increase, and has continued steadily to do so until the time of his admission, amounting to twenty-three pints of pale straw-colored urine in twenty-four hours. The appetite and thirst have become excessive, the patient drinking twenty-two pints of water in twenty-four hours. At the same time, the skin was rather dry, the tongue clean and moist, the bowels costive, the pulse 84, regular, full, and of moderate force; his strength not much impaired.

The patient had taken no medicine up to the time of his admission. He was restricted in the quantity of his drink, was ordered animal food exclusively, or nearly so, the use of the vapor bath, and the phosphate of iron, grs. viii., ter in die.

Under this treatment, the urine rapidly and steadily diminished in quantity. The patient, at times, however, complains of pain, dizziness, and confusion in the head, being rather disposed to despondency; with an appetite still very great, but growing less voracious; the bowels alternately costive and loose, but with a skin more moist and perspirable than formerly.

On the first of January, the patient came under my care. At this time he was passing about seven and a half pints of urine in the twenty-four hours. His appetite was still great, his thirst much more under his control, the patient drinking seven and a half to eight pints in twenty-four hours. His countenance was rather pale, but not morbid, and exhibiting no marked traces of irritability or of despondency. Indeed, his general feelings had much improved, his strength was good, and his ability to sleep at night not much impaired. No œdema noticed; no venereal appetite; involuntary nocturnal emissions. His urine was sweet to the taste, clear, of a pale straw color, leaving much saccharine matter on boiling, fermenting with yeast, of increased specific gravity, acid, depositing albumen slightly by heat and nitric acid; slight tenderness over kidneys on pressure.

No material change was made in the treatment of the case, except to increase gradually the phosphate of iron, of which he was using grs. x., ter in die. He also had commenced, a little before this time, the use of Dover's powders, grs. x., at bed-time. He was allowed also rather more farinaceous food, the strict animal diet having become rather disgusting to him.

At the beginning of February, a month later, the urine was reduced to five pints in the twenty-four hours, and the phosphate of iron carried to ʒ ss., ter in die. An attempt to carry the medicine above this dose produced a dull pain in the stomach and dizziness; it was not, therefore, increased. The vapor bath appearing to weaken him, it was omitted. The patient, during this time, continued to improve in his general health; his skin became soft, tongue clean, appetite still rather craving, digestion good, thirst diminished, strength good, pulse 84; he gained flesh. No tenderness on pressure over the kidneys, or pain, but he complained of a sensation of weakness in the lumbar region after sitting for a time, which was relieved by walking.

From this time up to the time of his discharge the same treatment was steadily continued, but no further improvement took place, the urine continuing to be passed in about the same quantity, viz., five pints in twenty-four hours. It was discovered, however, that he was by no means attentive to the restrictions that had been placed upon his diet, using every day large quantities of bread, which he obtained from the table. There was reason to suppose, also, that he indulged in other improper articles of food, and it is probable that he drank all that his thirst craved. He was discharged March 6, much improved certainly, but by no means cured.

Case II.—*Diabetes, relieved by Animal Diet and Opium.*—A. S. Mulford, æt. 28 years, native of New Jersey, Coach-maker, entered the New York Hospital March 28th. The patient is a man of good constitution and of regular habits. His family not predisposed to diseases of the kidneys; has never had venereal disease or taken mercury. Has used tobacco moderately. About five months ago, he began to notice that his urine was increased a good deal in quantity, and on tasting it, at the suggestion of a friend, he found that it was sweet. At this time, the general health was unimpaired, and the functions of the other organs were not sensibly affected. About a month after this, however, he noticed a craving appetite for food, with great thirst; since his attack he has lost much flesh and strength.

Countenance pale, no pain in head, dizziness, or ringing in the ears; eye-sight and hearing unimpaired; does not sleep well, being disposed to wander; answers questions slowly; memory impaired; complains of numbness in the right arm, with coldness, and a pricking sensation in right leg, both limbs being affected at the same time and only recently; tongue clean and smooth; appetite and thirst excessive; digestion easy generally, although occasional nausea; thinks animal food agrees best with him; abdomen free from tenderness or swelling; bowels rather costive. Complains of a tired sensation and soreness in loins, but of no tenderness on pressure; usually rises twice at night to urinate. Phymosis; meatus urinarius red; all inclination for women has left him; involuntary discharges of semen. No cough, or other pectoral symptoms. Skin harsh and dry; cuticle disposed to exfoliate; no œdema of feet. Pulse 96, soft and regular.

March 29.—Has drunk about 2 pints of fluid since yesterday; urine 3 pints in quantity, of natural color, clear, acid; no albumen; states that he can increase his urine to any amount by indulging his thirst. After boiling the urine leaves an abundant sediment like molasses, which the patient states is saltish; urine ferments readily with yeast. Ordered animal food, with a small quantity of stale bread; 2 pints of fluid; vapor bath every other day.

April 1.—The patient passed from my charge into that of my colleague, Dr. Griscom; at this time he was passing 6 pints of urine per diem. Ordered, opium gr. 1, ter in die.

May 1.—The patient has continued the above treatment up to the present time; is much improved. The appetite and thirst are now quite moderate; the strength and general health improved; the urine about natural in quantity, 3 pints in twenty-four hours; skin moist, memory improved; occasional diarrhœa. On the 12th April œdema of the feet and legs appeared, which continues. Omit opium. Phosphat. ferri, grs 10, ter in die.

May 21.—Continued the phosph. ferri only a few days; the diarrhœa, which had occurred occasionally before, becoming more urgent, but not severe, and free from pain and griping. For this he was ordered argenti. nit., grs ¼, with opium; the diarrhœa has now nearly left him; the œdema of the feet has also gone. He now expresses himself quite as well as ever, and thinks that he could return to his business; his aspect is much improved; his strength is restored and he has gained 15 or more pounds of flesh. The skin is soft and moist, with rather a tendency to perspiration; pulse 108, soft. Appetite natural, digestion easy, thirst moderate; tongue clean and moist. His venereal appetite has returned, and he no longer has involuntary discharges of semen. The region of the kidneys is free from pain, weakness, or uneasiness of any kind; he is seldom obliged to rise at night to urinate. The urine is of a bright amber color, free from sediment, without albumen, but of a specific gravity considerably above the natural standard; above the natural quantity (5 1–2 pints in 24 hours), fermenting with yeast as at the time of admission.

May 35.—Discharged by request.

The two cases detailed above, were both perfectly well marked cases of that formidable disease, diabetes. In both, the symptoms were of considerable duration, yet in neither was the constitution so seriously affected as to preclude the hope of relief. Yet the benefit derived in both cases must be regarded as merely temporary, the urine still continuing to present well marked traces of saccharine matter. In one, traces of albumen existed in the urine. The great difficulty even in hospital practice is to keep up the proper restrictions as to diet, and there can be but little doubt that both these patients will soon relapse into their old habits of indulgence, and that the symptoms will return with all their original intensity.

The cause of this disease, as in most other instances, escaped observation. In one case (Sweetzer) the patient had been in the habit of indulging very freely in the use of tobacco. This circumstance is mentioned because Dr. Prout, whose opportunities of studying this disease have been very great, attributes a good deal of influence to this cause. In the second case, however, no such cause existed.

ART. II.—*Observations illustrating the Dangers incidental to Operations on Hemorrhoides and Prolapsus Ani, with Practical Remarks on the Treatment of these Affections.* By JOHN WATSON, M.D., Surgeon to the New York Hospital.

OPERATIONS upon hemorrhoidal tumors and upon prolapsus of the mucous membrane of the rectum resulting from these, are usually considered as safe as any other class of operations of equal magnitude. Some authors who have written expressly upon these diseases, speak of excision as attended with little danger except from loss of blood; and of the application of ligatures, as attended with no evil consequences whatsoever. The following cases are of themselves sufficient to show that the dangers attending these operations have been too much underrated. I would not be understood to say that fatal consequences resulting from them are very frequent, but I have reason to know that such consequences now and then occur, and are sufficiently frequent to require the serious consideration of every surgeon before resorting either to excision or the application of the ligature.

The instances in which I have witnessed, or have been called upon to perform these operations within the past eight years, both in ordinary and public practice, have been exceedingly numerous; I cannot, without considerable trouble, attempt an exact enumeration of them. But within this period I have known of four fatal cases; one of these after excision, three after the application of ligatures, and not one of them from hemorrhage. Of these fatal cases two occurred within my own personal observation, and two in the practice of others.

CASE I.—Samuel Page, a native of New York, a seaman, aged 32, was admitted into the N. Y. Hospital, May 10th, 1841, with prolapsus ani and some slight symptoms of stricture in the urethra. The patient was in a state of feeble general health; he had long suffered from what he called rheumatism. The symptoms of stricture were of two years' standing, and appeared to have an intimate connection with the disease at the verge of the anus, being always worst when he had any extra irritation about the rectum. He had long been troubled with hemorrhoides, and the state of his general health was, in some degree, the result of occasional loss of blood from these. The prolapsus was slight, but of several years' duration. It involved the mucous membrane, the subjacent cellular tissue somewhat thickened and indurated, and a number of dilated veins filled with coagulated blood beneath; but no portion of the proper muscular coat of the intestine. It projected on either side of the verge of the anus after every evacuation of the bowels, but was easily reduced. It was subject to occasional exacerbations of inflammation, which were peculiarly apt to occur when his bowels were constipated. The patient was much dejected, and was suffering from indigestion.

After his admission, he was put on the use of tonic medicines, and his urethra was examined with a bougie. The stricture readily yielded after one or two applications of lunar caustic by the armed bougie; attention was then directed to the disease of the rectum.

June 4th, at noon, the prolapsus having been fully brought into view by requiring the patient to force it outward after an injection, I passed a curved needle armed with a strong double ligature of saddler's silk, from within outward, through the base of the protruding mass, on either side of the verge of the anus, the point of the needle passing out at the line of junction between the mucous membrane and the external integuments. After the insertion of the ligature, an incision was made completely around the base of the protrusion externally, so as to encircle the anus; the incisions on either side meeting in front and rear, and passing along the line of juncture already mentioned. The protruding mass on each side was next drawn out as far as possible by means of the forceps; and the ligatures, passing externally in the course of the incisions, were secured upon it in such a way as to divide it into four portions, two on each side; and after drawing the ligatures tightly enough to interrupt the circulation, the protruding mass was excised at a little distance above its base. The rest was then introduced within the anus. An anodyne was administered, and a cloth wet with cold water was placed between the fold of the nates.

The patient suffered considerable pain during the operation, and had subsequently, as is usual even in persons free from disease of the urethra, symptoms of strangury. These, however, soon subsided, after a single introduction of the catheter. The following night he slept comfortably under the influence of an anodyne. During the two following days the patient appeared to be doing well, suffering as little pain as persons commonly do after these operations, and making no complaint except from slight tympanitis, which subsided spontaneously after the discharge of gas from the bowels.

June 7th.—A few hours after the mid-day visit, the patient had a painful evacuation of his bowels, which induced symptoms of exhaustion. His pulse became very feeble, his respiration labored, his skin cold and damp. The anus, which had protruded during the evacuation of the bowels, was again reduced, and a poultice applied to it, and the patient was put on the use of stimulants. Slight re-action ensued. About 6 o'clock in the afternoon symptoms of prostration again occurred, and were now much more alarming, characterized by want of pulse at the wrist, labored respiration, a macerated appearance of the hands, which were wet and cold, the rest of the body bathed in perspiration, frequent vomiting of a grass-green fluid, tympanitis. He died at 8 o'clock.

In the *post-mortem* examination, which was made on the following morning, the lungs were found united to the chest by old adhesions. Cretaceous deposits, some of them very large, existed in the upper part of both lungs, and these deposits gradually changed at their lower portion into a sort of cartilaginous deposit. Numerous small abscesses, filled with grumous blood or bloody pus, were scattered through the substance of both lungs. The heart was apparently healthy, but its left cavities were filled with a large fibrinous concretion. The liver was in a state of incipient granular degeneration. The gall-bladder was filled with the same sort of grass-green fluid that the patient had vomited during the state of collapse. The kidneys were considerably larger than natural. The lining membrane of the pelvis of the kidneys was thickened, granulated, and injected with blood. The bladder was unnaturally large, and its muscular coats were hypertrophied: its mucous coat was also thickened, mottled with patches of sanguineous injection, and studded with smaller spots of ecchymosis. It contained a small quantity of turbid urine. The appearances of stricture in the urethra were merely appreciable, and existed at the membranous portion. The lower portion of the mucous membrane of the rectum had a light rose hue, as if from recent but not severe, inflammation. The longitudinal veins, extending upward from the sphincter to the distance of two or three inches, were enlarged, but neither tortuous nor abraded. The parts upon which the ligatures had been applied had sloughed off, and the ulcerated surface left by them had so much contracted as to present very trifling traces of disease, and no very marked irregularity. No other morbid appearances were discovered, except, perhaps, a mass of dark and apparently grumous blood in the iliac veins.

This patient's general health had been seriously impaired by protracted disease, not immediately connected with the disease of the rectum, and not appreciated, nor even suspected, at the time of the operation, nor at any time prior to his death. Had the condition of the thoracic and abdominal viscera been suspected, the dread of collapse from the mere shock upon his enfeebled system would have been sufficient to interdict any attempt to cure the prolapsus by recourse to the operation.

The existence of the numerous small abscesses in the lungs might lead us to suspect that the patient died of the effects of phlebitis. These, however, might perhaps properly be referred to mere local inflammation, superinduced in organs already somewhat diseased by the general state of arterial excitement following the operation. Their existence, however, taken in connection with the fibrinous concretion in the heart, the enlargement of the hemorrhoidal veins, and the equivocal appearances noticed in the iliac veins ; the vomiting of greenish fluid, and the sudden sinking at the close of the case ; give us room to suspect that general phlebitis might have been the immediate cause of the fatal result, although its existence had been so recent as to leave no organic changes on the surface of the large veins throughout the body.

Case II.—On the 6th of June, 1843, I was requested to see Mr. B., a merchant from Kentucky, about 30 years of age, who was suffering from extensive disease of the right elbow and fore arm, and a similar affection of his right ankle, which had occurred suddenly a few days previous, and appeared to be the indirect result of an operation which he had recently undergone for the removal of hemorrhoidal tumors.

Just before the operation he had arrived here on business, and, with the exception of the hemorrhoides, in the enjoyment of tolerable health. For some time previous, however, he had suffered from a slight stricture in the urethra, which had affected his general system, and induced a deranged condition of his digestive organs ; but of these symptoms he was not then complaining.

On the 20th of May, the gentleman with whom I saw this patient in consultation, had applied a silk thread around the base of a small hemorrhois, which, in a few days, sloughed, and left the patient comfortable. On the 29th, a second hemorrhois having appeared, and the patient having completely recovered from the effects of the first operation, a ligature was applied around the base of this little tumor also. On the 2d of June, the patient had a chill, followed by severe pain in the right ankle, and soon after, by redness and tumefaction about this part. In the course of the next twenty-four hours, the right elbow and arm as far as the shoulder, were similarly attacked. Notwithstanding the most prompt and judicious treatment, the application of nitrate of silver, blistering, and free scarification, and the internal administration of tonics, stimulants, and anodynes, for allaying pain and supporting the patient's strength, these local affections rapidly progressed to suppuration.

When I first saw the patient, the whole arm to the shoulder was enormously swollen, boggy, and injected with serous and purulent deposits. It had been deeply and freely scarified; and, from a puncture just below the elbow, pus and sloughy cellular tissue were issuing. The whole had been enveloped in a poultice. The ankle and foot were in the same condition, except that the integuments had not yet given way to the accumulated fluids beneath. The patient was apparently free from arterial excitement; his pulse 88, and of moderate volume; his skin of natural temperature; his tongue clean, moist, and of natural color; his intellectual faculties somewhat subdued and heavy, but without delirium. He had no internal pain, with the exception of a dull, uneasy sensation under the short ribs, on the right side; and this he attributed to having lain on the part. He had no special uneasiness about the anus, no tympanitis, no difficulty in evacuating the bladder, although he had suffered slightly from strangury, and the accumulation of gas in the bowels, for a short time after the application of the ligature. He was on the use of nourishing diet, with porter and repeated doses of Dover's powder. To these I added a grain of quinine every four hours, and small doses of camphor emulsion every hour, and suggested the use of brandy in case the patient should have any symptoms of sudden collapse before the next visit.

June 8th, at 8 *o'clock A. M.*—The patient's face is bathed in perspiration; his features are sunken; his left hand is cold, clammy, and purplish; his pulse 130 and extremely feeble; his tongue dry, cracked on the surface, and red at the edges; his intellect is clear; he is free from pain; but he has a constant hiccough which has continued since last evening. He had been on the use of small and repeated doses of brandy all night. His condition was too critical to admit of any examination of the arm or ankle. His stimulants were continued; but he died about mid-day. No post-mortem examination could be obtained.

The extensive secondary abscesses that appeared about the arm and ankle in this case, will be recognized by every intelligent surgeon, as the direct result of the previous operation; and those familiar with the pathology of these abscesses, know full well their intimate relation with phlebitis.* They cannot, in this case, be attributed to the mere absorption and remote deposition of purulent matter; for they were preceded by local inflammation in the tissues among which they appeared, and by only trifling inflammation, and probably no suppuration at all at the seat of the operation. Nor are they here attributable to a previous cachectic condition, nor to the influence of impure air, for this patient had recently performed a journey of many hundred miles on mercantile business; he was, at the time, in good health, and on the point of marriage. The freedom from pain, either about the rectum or any internal organ, after the application of the ligature, the secondary abscesses, and the sudden sinking, all serve to show, with almost as much certainty as if the body had been examined, that the fatal termination of this case was the direct result of general phlebitis, induced by the very trifling operation upon a previously distended and inflamed hemorrhoidal vein.

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* See my Essay on Secondary Abscesses, American Journal of Medical Science, November, 1837.

Case III.—The patient in this instance was a gentleman of middle age, in feeble general health; but with no apparent organic disease, or constitutional disturbance, except such as depended upon the existence of a prolapsus ani resulting from, and complicated with, hemorrhoides. The protruding mass was removed by excision, and the subsequent hemorrhage was checked by one or two applications of the actual cautery. The operation was performed by Dr. A. Stevens in March, 1837. The case went on as well as usual for a time, but symptoms of collapse suddenly ensued towards the seventh day, and very soon led to a fatal issue. The symptoms towards the close of the case, Dr. S. was disposed to attribute to supervening phlebitis. No post-mortem examination, however, could be obtained; and this fact was not, therefore, verified. It is the only unfortunate instance that Dr. S. has ever met with, after having operated on considerably over a hundred cases.

Case IV.—In May, 1842, Dr. Mott operated upon a gentleman of middle age and good general health, for prolapsus ani. Two ligatures were applied on the most bulging parts, a needle having been previously passed through the centre. The patient during the operation and for forty-eight hours afterwards, appeared to suffer even less than patients usually do; being free from strangury, and the other usually severe symptoms following these operations. But on visiting him at the end of the second day, Dr. M., to his surprise, found the patient in a state bordering on collapse, with weak rapid pulse, cold skin, jactitation, and other corresponding symptoms. The parts upon which the ligatures had been placed were now examined; and the tumors appearing to be sphacelated, the ligatures were removed. Gentle stimulants were at the same time administered, and more powerful ones afterwards; but without any marked benefit. The patient sunk into a state resembling the last stages of typhus, and expired about the close of the fourth day. No post-mortem examination was obtained.

Although in rugged health just before the operation, this gentleman had been unfortunate in business; his character had been assailed; and he was, consequently, not in a state of equable moral feeling. In a note with which Dr. M. has favored me, acceding to my request to publish this case, he observes, that the patient died a few days after the operation "with symptoms profoundly typhoid, in despite of all general means to save him, aided by the removal of the ligatures." "I mentioned it," he continues, "to several, that some of his symptoms simulated to so great a degree delirium tremens, that at first I was led to inquire if he was a temperate man. It is the only case which I ever lost from this operation; and from being new to me I was unwilling to allow that his death was occasioned by it. During my last residence abroad, I was informed that Sir B. Brodie lost a case from tetanus after the application of the ligature. This was a reason assigned to me by Mr. Cusack of Dublin for the use of the kali purum in these cases."

To the foregoing fatal cases might, perhaps, also be added another in the practice of the late Dr. Physick; and which, according to Dr. Chapman, was the direct result of phlebitis excited by the application of the ligature. "The tying of varicose veins," says Dr. C., "as was formerly practised so commonly as a cure, proved a very prolific source of it [phlebitis], and we are not without examples of its happening in the same way, to the hemorrhoidal veins, of which I once saw an instance, under the care of the late Professor Physick.* Two serious cases after the tying of piles occurred in the practice of J. L. Petit; and these have been quoted in reference to peritonitis. The symptoms, however, might lead us to attribute them to an entirely different cause. After the operations referred to, the patients, says Bushe, had symptoms resembling those of strangulated hernia, nausea, vomiting, hiccough, and abdominal pains. One of them recovered, the other died on the second day. Now, most of the foregoing symptoms are, to say the least, quite as frequent in phlebitis as in peritoneal inflammation. But any severe impressions upon the system in the form of an operation, might excite them. And as the fatal case terminated at the end of two days, a period scarcely sufficient for the fatal course of either phlebitis or peritonitis, the probability is that death was the result of the shock of the operation upon the system.

The foregoing facts are the most fitting comment I can offer on the opinions of those who speak of operations on prolapsus ani and hemorrhoidal excrescences, as being attended with no very serious consequences; and to put the profession right in reference to the statement of a late writer on the diseases of the rectum, who appears to deny the likelihood of phlebitis as one of the results of the application of the ligature.

> "As to the occurrence of phlebitis," says Dr. Bushe, "I have never seen a case, nor am I acquainted with one on record. The dread of this consequence has arisen in the minds of some French authors, because they set out with the preconceived idea that these tumors were varices, and then, reasoning from analogy, they arrived at a conclusion which is not tenable. An author, therefore, instead of quoting cases of inflammation of the veins of the leg, from ligature of the saphena, to illustrate the consequences arising from tying hemorrhoidal tumors, ought to have read some of our English authors, who, though they agree with Briquet, Dauce, and others, as to the occurrence of inflammation in some of the cases of ligature of the saphena, have, at the same time, demonstrated that the extremities of this vein are much less liable to become inflamed than its trunk, in consequence of external violence. Mr. Kirby has given a case in which tetanus followed the operation, and in the same manner, I could cite two fatal cases of this dreadful disease, one of which succeeded to a thorn in the heel, and the other followed a very slight abrasion of the skin. It is very much to be regretted that the opponents of the method by ligature have not, like Mr. Kirby, quoted cases, instead of making assertions: such a paucity of facts, therefore, is not likely to have much weight with an impartial surgeon."†

Without at present attempting to criticise the foregoing passage, I would remark, that, independent of Dr. B.'s principal error in supposing that phlebitis never follows the application of the ligature, he has fallen into another in supposing that hemorrhoidal tumors have no special relation to varices. In another part of his book his remarks on this point are more precise:

> "I have," says he, "repeatedly injected these tumors with colored water, both from the arteries and the veins, and when cut into while the fluid was injected small jets were observed to issue from many points. I have frequently dissected them with the greatest ease, and found that they were spongy, reddish, and contained both arteries and veins, the latter being most copious, but *always perfectly healthy.*"‡

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* Amer. Journal of Med. Sci. July, 1843, p. 13.

† A Treatise on the Malformations, Injuries, and Diseases of the Rectum and Anus. By George Bushe, M.D. New York. 1837. P. 182.

‡ Loco Citat. p. 182.

After having paid no small attention to the structure and appearances of these tumors, I am ready to accede to the truth of the foregoing description of them except so far as it refers to the condition of the veins. These vessels I have often found not merely distended enormously beyond their natural size, but tortuous, convoluted and thrown into irregular pouches, with their coats thickened, the blood within them coagulated, and the cellular tissue surrounding them hypertrophied and consolidated, precisely in the same way as we see in some of the worst forms of varices in the veins of the limbs.

On one occasion, in which I assisted Dr. Stevens in an operation for the removal of an immense protrusion of the anus depending upon a vast number of hemorrhoidal tumors that lay beneath the surface, and in which the parts were removed by excision, I took occasion to examine the diseased structure carefully. After the excision, the exposed surface bled profusely. The hemorrhage was checked with difficulty, and only after repeated and protracted efforts with the tampon, in which the patient appeared to suffer infinitely more than if ligatures had been applied. On inspecting the well-exposed bleeding surfaces in this case, I could readily distinguish the minute capillary arteries pouring out their delicate jets of red blood, from the numberless dilated veins, each of the size of a crow quill or larger, which gave the whole surface the perforated appearance of the top of a watering spout, and from which issued a torrent of venous blood. I took occasion afterwards to examine the mass that had been removed. After it had lain for a day or two in diluted alcohol, the dilated veins on its surface had contracted nearly to their primitive size; but on tracing them inwards I found them communicating with pouches at least the sixth of an inch in diameter, which, when dissected from the surrounding parts, might, in size and form, be compared to small leeches. Many of these pouches communicated with a capillary vessel at either extremity. Their coats were rather thick, they were filled with coagulated blood; they were very numerous; pressed upon one another in all sorts of ways, and were held together by thickened and indurated cellular tissue. They were, in short, varicose pouches formed in the course of the hemorrhoidal vessels, just as such pouches are seen to form in the branches of a varicose saphena vein, only more numerous, and in closer apposition, than is usual in the latter case.

Hitherto I have spoken of hemorrhoides and of prolapsus ani, in the same connection. The truth is, that this latter affection, although occasionally occurring alone, as in children, and in some adults of lax fibre, is almost always the result of previously-existing hemorrhoides. The hemorrhoidal tumors, however, are not always in proportion, either in size or number, to the severity of the prolapsus. In some cases, the diseased vessels are so near the surface, or so numerous, as to leave no doubt of their connection with the complicating protrusion. In some instances, even the mucous membrane of the pouch of the rectum itself, appears to be their principal seat. But, in other instances, the diseased vessels are not observable; the mucous membrane, as well as the subjacent cellular tissue, is hypertrophied, indurated, and apparently detached, in some degree, from the proper muscular coat of the intestine, so that, after protruding on either side of the verge of the anus, the whole mass may be removed without bringing into view the varicose vessels that gave rise to it. But, if the exposed surface be carefully examined after the excision, the hemorrhoidal vessels may now be seen pouting out at the bottom of the wound, perhaps not sufficiently near the track of the incision to have been injured by it. The bulging which they produce, however, although thus deeply seated, leads to a partial closing of the pouch of the rectum, and to a consequent protrusion of this part at every effort to evacuate the bowels. The irritation thus arising establishes a diseased condition of the mucous membrane, and finally the confirmed prolapsus. I have often seen these varicose pouches, after operations for prolapsùs, lying entirely uninjured at the bottom of the wound; and, in some cases, they are merely to be felt projecting toward the surface of the cut after the removal of the diseased mass that lay over them. I have, then, always looked upon them as the starting point of the disease that leads to the prolapsus; and have been led to believe that, unless they are exposed and removed during the operation, there is always some danger of a relapse.

Hemorrhoidal tumors are either external or internal. The first are readily managed, either by incision, excision, ligature, or caustic applications. The internal, however, are worthy of much more serious consideration. They rarely extend above the pouch of the rectum; and are, therefore, generally within reach. Hence the great success of operations upon them when properly performed, and where the patient escapes the first effects of the operation itself. But, in some cases, I have known them situated so high up within the rectum as to be beyond the reach of either knife or ligature. Tumors of this sort may, in the end, give rise to prolapsus of the mucous membrane, descend with the descending prolapsus, and finally come within the surgeon's reach. So long, however, as they remain high up, beyond the verge of the anus, although they may frequently bleed, or harass the patient and undermine his health, they are not to be interfered with, except by enemata, supposatories, and the administration of internal remedies.

For these bleeding internal hemorrhoides, I have found more benefit in the use of injections of acetate of lead, than in any other form of local application. I commonly employ this of the strength of a drachm to eight ounces of rain water, and never administer over two ounces of this solution at a time. I repeat the injection after each return of hemorrhage; and, as this most commonly occurs during the effort to evacuate the bowels, I commonly advise the patient to resort to the injection immediately after every stool, until the hemorrhage has ceased for a few days. The usual internal medicines are, the occasional administration of a blue pill, especially where there is reason to suspect any disturbance in the functions of the liver; a dose of oil, or of the extract of teraxicum; or some other mild laxative. But, for the mere evacuation of the bowels, and with the view of correcting an obstinately-constipated habit, I know of no article better than one or the other of the following confections.

First.—	Common Rosin, well pulverized,	℥i.	
	Clarified Honey,	ʒ v.	M.
Second.—	Common Rosin, as before,	ʒi.	
	Balsam of Copaiva,	℥ss.	
	Clarified Honey,	℥ivss.	M.

The last of these, when it can be borne, is the most efficacious. But to many persons, and particularly delicate females, the balsam is so nauseous that they are unable to use it. The ordinary dose is from two to three drachms at bed-time. This dose is generally sufficient to produce one soft and consistent stool early on the following morning, without griping, uneasiness, or any of the usually disagreeable attendants of cathartic medicine. These measures are to be assisted by the occasional use of the hip bath; by cooling, anodyne, and emollient clysters; by a course of regimen most suitable to keep the bowels regular, without, however, stimulating them; and above all, by carefully and gently reducing the prolapsus, after every evacuation of the bowels, and guarding against all movements likely to protrude it in the intervals.

The evils resulting from hemorrhoidal tumors, when allowed to progress, are very numerous. Besides the prolapsus, and its consequences, already mentioned, they give rise to ulceration of the rectum, to fistula in ano, to fistulous opening between the rectum and vagina in females, of which I have seen several cases; and between the rectum and urethra in males, of which I have recently heard of two instances; to swelled testicle; to diseases of the bladder; to constant tenesmus, and uneasy sensations in the limbs; to frequent and copious loss of blood, and its attendant states of anhemia and sinking; palpitations, and dejection of spirits, not to speak of fatal consequences.

But in contrast with these, most of which are the usual results of the disease in question, we should not, in undertaking the treatment of it, neglect to consider the evils that now and then result from surgical operations. Some of these latter evils are of temporary duration, and to be expected as a matter of course; among which are tenesmus, strangury, tympanitis, gastralgia, and nervous symptoms, more or less marked. These usually subside after the first free evacuation of the bowels that follows the operation. Others are of a much severer grade, and happily of rare occurrence. Among which are phlebitis, tetanus, excessive hemorrhage, and fatal collapse from the shock of the operation itself. Others, also rare, are of a more permanent character; as contraction or stricture of the anus, extensive abscesses, obstinate fistula, and, finally, a state of general plethora, from suddenly checking the frequent loss of blood, in a system long habituated to it, and consequently to an accelerated process of sanguification.

As my object on the present occasion is not to write an essay on the subject of hemorrhoides or prolapsus ani, I shall not go into detail in reference to these various points of danger. It is sufficient to say that though some of the results of surgical interference are exceedingly formidable, their occurrence is almost as exceedingly rare; and that if the disease, which in itself is both distressing and dangerous, continues to progress notwithstanding the mild and palliating measures to which we have above alluded, it becomes the surgeon's duty, provided the patient's general health and other circumstances warrant it, to undertake the radical cure of the disease by operation.

With this view, the choice of the particular mode of operation is a matter of much importance, in reference, as well to its immediate, as to its ultimate effects. The most common modes of attacking hemorrhoides and the prolapsus ani resulting from them, are, by the actual cautery, by escharotics, by excision either with the bistoury or scissors, by the ligature en masse, and by a combination of any two or more of these.

The *actual cautery*, although occasionally employed in checking hemorrhage after excision, and for producing permanent contraction of the relaxed tissues about the verge of the anus, is rarely used alone. It is a most formidable application to the patient; it has no advantages that are not procurable by milder measures; and after the burn has healed, the cicatrix resulting from it may lead to stricture of the rectum, and call for subsequent surgical interference. As a means of treating the diseases in question, it is, therefore, not to be commended.

The *potential cautery*, whatever be the article employed, has no particular advantages to recommend it, to the exclusion of other means that have been much more thoroughly tested; certainly, not the advantage of guarding against either severe pain or fatal phlebitis. The action of kali purum is not easily circumscribed, and its incautious use might lead to serious mischief. The nitric acid spoken of so favorably of late, may answer a useful purpose where the disease lies near the surface of the mucous membrane, or is entirely confined to it; but those in the habit of using this article for producing eschars on other parts of the body, know how difficult it is to produce a deep slough by applying it. I should expect little or no benefit from it where the hemorrhoidal tumors lie deep, and enveloped in thickened and indurated mucous membrane and cellular tissue. Where the mucous coat of the rectum is varicose and tumefied I have occasionally used the solid nitrate of silver with advantage. In such cases, it will answer all the purposes of the mineral acid. It should be applied very freely, and every day or two, for weeks together, in order to effect a permanent cure.

Excision, except in cases where it becomes afterwards necessary to tampon the rectum for arresting the hemorrhage, is much less painful, and more rapidly executed, than either of the other operations. Where the protruding mass lies entirely outside of the sphincter ani, and not likely to allow the parts upon which it is situated to be afterwards drawn within the pouch of the rectum, it may occasionally be advisable to remove it either with the bistoury or the curved scissors. The wound thus produced, however, is often long in healing; it gives rise to tumefaction and irregular pouting of the neighboring parts about the anus, and often calls for the subsequent use of the knife for removing these. Patients rarely get well so rapidly after this operation as after the use of the ligature. Where the protruding mass is attached high up beyond the verge of the anus, excision, of course, is entirely out of the question. The hemorrhage resulting from it under these circumstances, has, in many instances, terminated disastrously; and although I have never seen any fatal cases from hemorrhage myself, they are sufficiently well known to have occurred in the practice of others who have written on this subject. In one case to which I have already alluded, the hemorrhage was alarming, and was controlled with difficulty; but the patient finally got well. The easiest and most effectual mode of applying the tampon under these circumstances, is first to introduce the fold of a cambric handkerchief, previously oiled, on the point of the finger well up within the pouch of the rectum, and afterwards to distend this by crowding the fold of the handkerchief with masses of cotton or of picked lint, until the walls of the intestine are so much compressed as to completely control the hemorrhage. After introducing the tampon in this way, it is to be retained in place by supporting the anus with a T bandage.

The peculiar modification of the operation by excision which was instituted by Dupuytren, and which consists in simply snipping off a few radiated folds of the mucous membrane and integuments around the verge of the anus, is not applicable to the diseases under consideration; and if employed, must almost always fail to effect a cure. In the simple relaxation of the parts, as seen occasionally in children and persons of lax fibre, it may answer a useful purpose.

Ligature en masse may be employed in different ways. Where the hemorrhoides are in detached masses, and entirely surrounded by mucous membrane, they may be simply drawn outward by a tenaculum, needle, or forceps, and then secured by a strong silk ligature, which should be drawn around their base so tightly as entirely to arrest the circulation through them, and cause them to slough. The ligature, however, when applied in this way, notwithstanding all our care, will occasionally slip. It is better, then, even in these simple cases, to transfix the tumor with a needle before applying the ligature. This should then be tied between the needle and the base of the swelling. A process still more certain, and when the tumors are large, one that should always be adopted, is to transfix the base of the swelling with a needle armed with two ligatures, which are to be secured partly on one side, and partly on the other, around the neck of the protruding mass. When the tumors involve a portion of integument external to the verge of the anus, the application of the ligature over this is apt to be exceedingly painful, and to give rise to nervous symptoms. Before tightening the ligature in such cases, the common integuments on the external side of the tumor should be divided with a scalpel, and the ligature made to pass along the track of the incision.

But when the protrusion is considerable, and forms, as it often does, an oblong bulging mass on either side of the cleft of the anus, the most judicious mode of attacking it, is, first to administer an enema for evacuating the rectum, and enabling the patient to bring the whole of the diseased mass fairly into view. He should then be placed on his left side with his thighs strongly flexed and his hips projecting over the edge of the bed; or he may rest on his feet with his body bent over a low table, or over the edge of the bed, and with his hips projecting towards the surgeon. The nates are then to be separated by the hands of assistants. The surgeon next introduces his left index finger into the rectum, so as to hook down the protruding mass from above. If necessary, he may be aided in this by an assistant who seizes the mass with a tenaculum, needle, or claw forceps. In general, the finger of the surgeon is all that is necessary to bring down the mass and keep it fixed, prior to the next step of the procedure. A curved needle, secured in a shaft, and armed with two stout silk ligatures, is now made to transfix the base of the protruding mass from within outward, first on one side and then on the other. In this way four ligatures are inserted, two on either side, in the track of the punctures. The ends of these ligatures are then to be seized by the surgeon's left hand, so as to hold the protruding mass well drawn out by them. While thus held, he next carries the point of a scalpel along their outer side, in the line of junction between the mucous membrane and the skin; dividing completely through the skin and into the cellular tissue at the external base of the swellings; and making the two incisions meet each other in front and rear, at which points the mucous membrane is also to be slightly snipped for clearing the track of the ligatures. The four strings are then to be tightened around the base of the four several divisions of the diseased mass previously well drawn out. After firmly securing the ligatures, the most bulging portions of the tumors, now deprived of their circulation, may be excised either with the scalpel or the scissors, and the rest afterwards carefully introduced within the rectum.

The objects effected by this procedure, are, first, that no portion of the external skin is removed, and no portion of the sphincter ani muscle is involved in the operation, thus avoiding the chance stricture of the anus after the healing of the wound; secondly, no portion of the sensitive integument is included in the ligature, thus avoiding the principal cause of pain, and of serious nervous symptoms; thirdly, a smooth and even wound is made around the verge of the anus, thus avoiding the ragged and uneven ulcerations, and the subsequent protrusions, that so frequently follow after other modes of applying the ligature, and that often call for the subsequent use of the scissors.

After the operation, a fold of lint, wet with cold water, or laudanum and water, may be applied to the part, and the patient put to bed. If there is any disposition to protrusion of the anus, the parts must be supported by a T bandage. A full anodyne should now be administered. In the course of the following twenty-four hours, and after the first shock of the operation has subsided, the patient usually begins to complain of pain at the neck of the bladder and inability to void his urine. If these symptoms are not overcome by fomentations and emollient drinks, a catheter may be introduced; with the first evacuations of the bladder, they commonly disappear. Tenesmus and the accumulation of gas in the bowels, are looked for as a matter of course, and commonly disappear after the first free discharge of fæces. If this is not effected before the close of the second or third day, a dose of castor oil, or an emollient enema, may be administered. The ligatures usually fall off within the first ten days, and the slight ulceration left by them cicatrizes soon afterwards.

In patients that had long suffered from the disease, especially when accompanied with frequent loss of blood, the sudden arrest of this after the operation, leads to rapid filling up of the general system. I have never yet seen any evil consequences arising from the plethora thus induced, although others have reported cases of apoplexy arising from it. In order to guard against this condition of system, the patient should be restricted to a spare diet, required to take sufficient exercise, and to keep the bowels free, if necessary, by gentle laxatives.

It may here be asked, does either of the modes of operating above described, offer any particular immunity, greater than the others, against the occasionally fatal consequences to which we alluded at the outset? In respect to all of these, excepting only such as arise from hemorrhage, we may answer, no. They are to be prevented, not so much by the adoption of any special mode of operating, as by selecting the proper time for the operation, and proper class of patients upon whom it is to be performed. As to tetanus, I look upon it as no more likely to ensue after operations about the rectum or anus, than after simple operations in any other part of the body. The same remark will, in some degree, apply to the occurrence of fatal prostration from the shock of the operation itself. It should be remembered, however, that few parts of the body are more sensitive than the verge of the anus, and no class of operations more painful than those about this part; and hence that, on persons suffering from extensive internal disease, whose power of endurance is nearly exhausted, and who are intolerant of pain, operations upon this part of the body should generally be shunned. Pain, when severe and long-continued, has, in some cases, as marked an effect in exhausting the vital forces, as actual loss of blood. On one occasion I witnessed death from the pain of an ulcerated blister on the back of the neck.

In reference to phlebitis, it should be a general rule not to interfere with the diseases of the hemorrhoidal veins, while the parts are in a state of excessive irritation or actively inflamed; but to subdue these conditions by the milder measures to which we have above alluded, before resorting to the operation. I have, on a former occasion, shown that the danger of interfering with varicose swellings, is not so much attributable to the particular mode of attacking them, as to the nature and condition of the parts attacked.* Phlebitis, however, we have reason to believe, is much less frequent after operations upon hemorrhoidal swellings, than upon varicose veins in other parts of the body. This fact may, probably, be explained on a principle for the first time, I think, pointed out by Mr. Brodie,† that the larger veins, when injured, are more apt to give rise to general phlebitis, than their smaller branches or ultimate ramifications.

ART. III.—*Case of Hypertrophy of the Lips and lower part of the Nose, in a young Lady, successfully treated.* By WILLIAM DETMOLD, M.D., of New York.

IN July, 1843, I was consulted by Miss —— of South Carolina, nineteen years of age, with dark hair and complexion, and of a full and robust habit. She was afflicted with a considerable enlargement of the lips and of the lower part of the nose, which, though she otherwise enjoyed perfect health, naturally excluded her from almost all the enjoyments of youth. She had taken for several years the advice of distinguished medical men in different parts of the country, without obtaining relief, and she now applied to me for a last trial, prior to her seeking help on the other side of the Atlantic. The history of her case, as far as I was enabled to make it out from her own and her mother's account, who had accompanied her north, was briefly as follows:—About three years before (when at the age of sixteen, enjoying at the time perfect health, after having had, at the age of fourteen, her menstrual function regularly established), she was, without any apparent cause, attacked with a violent erysipelas of the face, accompanied with enormous swelling, which closed both her eyes and increased the volume of her lips to a frightful degree; the teeth made deep indentations on the inside of her lips and cheeks; the skin was of a dark red color and covered with vesicles; and violent fever and loss of consciousness for several days accompanied these local symptoms. The treatment appears to have been conducted on general principles, and probably she was salivated. The swelling gradually subsided, with a fetid purulent discharge from the mouth, and it appears from her account that part of the epithelium of the lips and mouth sloughed away. The swelling of the lips and lower part of the nose, however, never entirely disappeared, and the upper lip especially retained nearly double its natural volume.

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* An Inquiry into the Pathology and Treatment of Varices. American Journal of Medical Science, January, 1843.

† Medico-Chirurg. Transact., vol. vii.

She had been twice to the north, partly for a change of air and partly to avail herself of medical advice; but hitherto, this enlargement, which disfigured her face in a distressing manner, had braved all the remedies which had been advised, and which had been, as may be imagined, faithfully applied.

Her upper lip was, as stated above, about double the natural size, and the swelling extended in a lesser degree to the adjoining parts, viz., the lower lip and the lower part of the nose. There was a creeping sensation, but not the least pain on pressure in the swollen parts, nor was there any heat or hardness in the swelling; the lips had lost their bright red color, and they were rather of a livid bluish tint; and in cold weather, or after exposure to a sharp wind, the upper lip was apt to crack. Besides, the swelling was not always the same; it varied at times without apparent cause; but it was always worse a few days before the menses made their appearance, or after the system had been the least excited or heated. Her general health was otherwise perfectly good.

From what I could gather of the different means applied by the different physicians who had been consulted, the patient had gone through an alterative course of treatment with antimony; she had been under the effect of mercury, and iodine had of course been unsparingly administered externally as well as internally; sea-bathing and a regular course of purging had been gone through with, and even the mysterious aid of animal magnetism had been invoked by the disconsolate family; besides, a number of other quack medicines, inclusive of homœopathy, had been tried, but all in vain.

The only advantage that thus far was gained, was to prove to me that if help was possible, it was not to be obtained by the ordinary, though perhaps rational enough means, furnished by the pharmacopœia, but that I had to strike out a new path, and devise a method of treatment which my predecessors in the case had not yet tried, and, therefore, not yet proved inefficient.

After observing the patient for some few days without doing anything, I determined to combat this obstinate complaint with the following means: repeated application of leeches, external application of ice, local pressure, and electro-magnetism, aided by saline aperients at regular intervals, and total abstinence from animal food. The result will show how far this, at first sight perhaps motley array of remedial agents, succeeded in reducing a most uncouth looking proboscis to the fair dimensions and symmetrical proportions of a young lady's lips and nose.

I commenced my operations with a dose of sulphate of magnesia and eight leeches applied to the inside of the upper lip; the bleeding was favored by warm fomentations; and after it had ceased, I applied a bandage which pressed the lips against the teeth, with two rollers attached to it by means of which the nose was compressed. Over the whole of this, I applied small bags with pounded ice. Next morning I went to see my patient, rather sanguine with the expectation of having made some impression. My welcome may be imagined by the reader, when I was led by the speechless mother to the bed of her daughter; bandages, ice, and everything had been removed; the face was swollen to an enormous degree, and the eyes were completely closed; and all that the mother said was, that now the face was about as bad as it had been three years ago, when the disease first commenced.

Here I had to make the best of a bad case. I told them that all this was perfectly natural, though the patient looked anything but natural. I talked to them of idiosyncrasy, which I knew they would not comprehend, and therefore thought that they would feel satisfied with the explanation. I told them that I had half expected this and the like things, but that above all, the course prescribed should be persevered in. I immediately reapplied the bandage and the cold fomentations; the latter, however, soon produced pain in the teeth, and moreover, as the swelling, in consequence of the cold application, assumed a dark blue color, and became massive and unelastic to the touch, as though plastic lymph were being deposited, I abandoned the ice entirely; and I now commenced applying, twice a day, a strong current of rapidly succeeding shocks from an electro-galvanic battery, the compressing bandage being, at the same time, kept on day and night. Under this treatment the temporary swelling went down with surprising rapidity; and after a lapse of about ten days, I had the satisfaction of hearing the mother, as well as the patient, admit that the face was smaller than it had been at any time during the last three years.

I persevered a fortnight longer in the same course, together with the above-mentioned general treatment, viz., total abstinence from animal food, and every third day a saline aperient; and though at the end of that time, the face evidently was materially improved, yet during the latter part of that period the improvement had not progressed. Ascribing, as I did, the improvement to the resuscitation of an active inflammation, and its energetic and rapid reduction by the means applied, I resolved to follow up that plan; and I accordingly proposed to apply again leeches, this time for the express and avowed purpose of reproducing the inflammation. I had some difficulty in persuading the party interested to consent to it, but I finally prevailed upon her. But this time, I applied only three leeches. I had, a few hours afterwards, the doubtful satisfaction of seeing the swelling commence, which, however, did not now reach so high a degree as the first time. The same course of treatment and the same result followed. Three leeches were now regularly applied every fortnight, always producing active erysipelatous inflammation, the solution of which, under the stated treatment, seemed to carry off every time some of the old swelling.

Altogether, the leeches were applied six times, and the same course of treatment was pursued without any alteration, except that one day, when I found the patient's pulse very full and her face redder than usual, I took ten ounces of blood from the arm. The young lady began already to take regular walks in daytime without a veil, which she never had done before, and an ordinary observer would have seen nothing unnatural in her face. She remained, however, till late in the fall under my treatment, which still continued the same, except that, instead of applying leeches, I scarified the inside of her lips once a week with a lancet.

She left New York, late in the fall, perfectly restored, to return by land to her native State; but soon after her arrival at Philadelphia, she became alarmed by the return of the creeping sensation in her lips, whereupon she immediately returned to New York; and although I could not discover the slightest swelling, yet she begged me to resume and continue my former treatment for some time longer. She left, however, soon after, perfectly satisfied and happy.

The most gratifying letters from her since, have proved to me not only the complete and lasting success of my treatment, but also her warmest gratitude.

I do not claim to have applied any new remedies in this case, but perhaps the combination of those applied, and the intentional resuscitation of the original inflammation for the purpose of removing its own product, are somewhat out of the common routine of medical practice; and as the best and surest test, success in a case of long standing, has justified the plan, I have deemed the case to be worth laying before the profession, partly on account of the interest of the case itself, and partly, because a similar treatment may prove effectual in analogous cases.

ART. IV.—*Medical Jurisprudence.—Notes of a Trial for Murder by Suffocation.* By CHARLES A. LEE, M.D., Professor of General Pathology and Materia Medica, in Geneva Medical College.

DR. FORRY:

Dear Sir—The following is a brief abstract of the report of the late trial of Leitga, as prepared for my edition of Guy's "Forensic Medicine," which you have requested me to furnish for publication in your Journal. As it was my object merely to present the leading and most important facts in the case, you will perceive that the medical and other testimony has been much condensed, and that the charge of Judge Kent has been necessarily omitted. Still, as it is, I believe it presents some interesting points, and involves some considerations to which the attention of the profession may be profitably directed.

I am, very truly, yours, &c.,
CHARLES A. LEE.

New York, June 12, 1844.

A case of trial for murder by *suffocation*, lately came before the Court of Oyer and Terminer, of the city of New York, Judge William Kent presiding; in which Wm. Leitga, the prisoner, was accused of thus destroying his wife, and afterwards setting fire to her bed, by which the body was considerably burned before the fire was discovered and arrested. It appeared in evidence, that they had lived very unhappily together, both being addicted to habits of intemperance, and had been quarrelling at one or two o'clock of the morning on which the fire took place (it being discovered about six o'clock). The deceased was found lying on a cot, a little on her right side, with a large pillow over her face, but not covering the whole head; the arms bent up and lying across the breast under the pillow, which was partly burnt—her limbs were burnt to the knees, and also her right arm, the rest of the body not much burnt—the countenance was distorted, the eyes open, and the tongue protruded from the mouth nearly an inch. The cot on which she lay was about four feet from the stove; there was no appearance of fire between the cot and the stove; but everything showed that the fire had commenced at the foot of the cot and worked up; an empty lamp lay on the floor about three feet from the foot of the cot—bed clothes were lying about the room, and everything indicating that there had been a violent quarrel. As the testimony of Dr. Rogers contains the principal facts in the case, I present it in detail:

Dr. James L. Rogers testified that "he saw the body about 8 o'clock on the morning of October 29, 1843; the body was slightly inclined to the right; the arms were up, inclining to the breast, but not on it; the lower part of the right arm and hand were burnt to a crisp; the hair was burnt off the top of her head; the left cheek was burnt on a place about as large as half a dollar; the transparent part of the left eye was scorched; the body was burnt across the stomach down; below the knee the flesh was burnt almost entirely off—above the knees to the abdomen, it had the appearance of a ham being smoked; there was no burn on any other portion of the body except the left ear; the mouth was not burnt; the tongue protruded; the countenance perfectly calm; no mark was perceptible around the neck or any other place, except a small flesh wound on the right side of the eye. On dissection, the brain was found perfectly natural—stomach also healthy, containing about two spoonfuls of liquid matter; the bowels were perfectly healthy, as were the kidneys, except that they all appeared somewhat congested; the lungs and heart were healthy, but the vessels of the lungs were deluged with dark venous blood, as was the right side of the heart; the left side of the heart was nearly free of blood."

The District Attorney asked what was his opinion of the cause of death. *Witness*—"In the absence of all natural causes, of which there were none, I should say she died from stoppage or prevention of air from the lungs; it may be called *suffocation;* the same appearances would be produced, either by the breath being stopped by something placed over the nose and mouth, or by drowning. I observed no appearance of intoxication; I think I never examined a body, where there was a more healthy appearance than that presented. Where there is a dense smoke or carbonic acid gas from the burning of charcoal, the same appearances of the lungs and heart would exist in some measure, but not so fully, as the air in such cases continues partially to have effect. The fact that one eye was burnt, the placid state of the countenance [this was denied by other witnesses who first saw the body, and can hardly be presumed, from the protruding of the tongue, &c.], and the position in which she lay, led to the conclusion that she must have been dead before the fire. The probability is, that if the person had been alive when the fire reached her, she would have shut her eyes, and one of them would not have been burnt. There was no blister on the eye, as there would have been, had it been burned during life. There was also no red line on the body to where the fire came, which is also a very certain sign of burning before death."

Cross-examined.—"In the case of a person who dies of intoxication, there is a congestion of the brain; the eye-balls are distended, and there is, at times, a smell of alcohol in the stomach and brain."

Mr. Brady asked the witness, if a person got intoxicated and in a position to prevent respiration, whether the same appearances would not be presented as in the present case?

Witness.—"It would depend upon this position. If the head was down and respiration stopped, there might be a paralysis; it is very difficult for persons to suffocate themselves. If paralysis did occur from intoxication, the brain would show it; but there was no appearance of the kind in the present case at all. There was hardly the usual quantity of water in the brain."

Brady.—"Could not this woman have got so beastly drunk, that she might have got in a position to suffocate?"

Witness.—"Such might have been the case, but it would show itself on the brain."

Brady.—"Would you say that she did not go to bed drunk that night?"

Witness.—"In the absence of all appearance or symptom to that effect, we were induced to believe that there was nothing to justify a supposition of the kind. If a person died of intoxication, the brain would show it, and in persons habituated to intoxication, there would be a morbid appearance about the stomach and lungs—a bloated countenance and other marks, which would distinguish it. Suffocation and apoplexy present different appearances after death: in the first case, the lungs cease their functions from want of air, yet the blood passes to the brain, and returns, as there is nothing in the neck to prevent it; but in apoplexy or strangulation, as in the case of a cord round the neck, the blood stops, and the brain exhibits the effect. In suffocation, the breath may be stopped in a minute or half a minute, so that a person would cease to struggle, and in ten minutes be dead. There was an indentation of a key on the left breast of the deceased, which might have been made by a heavy arm pressing on it."

Dr. Putnam testified to nearly the same effect. He said that "none of the viscera exhibited any marks of intemperance; that if death had been so caused, the brain, stomach, and countenance, would show it; the brain, particularly, would be congested. In death by strangulation there would probably be proof of violence perceptible about the neck, and the tongue would ordinarily protrude; it generally produces apoplexy. Suffocation may be produced by stopping the respiratory organs, or by inhaling gases. To distinguish which of these causes, one must know the attending circumstances. A person dying of suffocation by inhaling carbonic acid gas, would exhibit some change of countenance. I saw nothing in the body externally or internally that could account for death. Taking everything into consideration, I conclude the death to have happened from suffocation. A pillow held over the nose and mouth, produces such death in two or three minutes, without external marks. I believe the fire to have been communicated to the body after death."

Cross-examined.—"My opinions have been formed from reading; never attended but four post-mortem examinations; never of one who died from suffocation from any cause. Congestion of the brain would certainly be found after death from intoxication; so would also inflammation of the stomach. Post-mortem examination was made at 11 o'clock A. M., stomach appeared as if she had not eaten for six or eight hours; had she gone to bed drunk at 1 or 2 o'clock the night before, should expect to find evidence of the fact; I should not expect to find a morbid state of the stomach in the case of a person who drank *moderately*, that is habitually, but not to intoxication; never read of a case of strangulation without marks of external force; whether the tongue protrudes or not, depends upon the peculiar way in which the exterior force is applied. Suffocation may happen accidentally, by getting into a position in which it is impossible to breathe ; this is the case often with infants ; it is not impossible that this might occur in the case of an adult, in a state as helpless as a child, but the probability is against such an occurrence. In the case of a person in a room where there was smoke or gas, or corrupt air of any kind, a drunken person's death might be much expedited. In cases of death by noxious gases, the tongue is usually more or less protruded, and there is more or less frothy appearance about the mouth. In ordinary suffocation, not by gases, &c., it is rare that the tongue protrudes; in cases of violent suffocation it is not common ; difficult to say, on a post-mortem examination, whether the person died from violent or accidental suffocation.'

Physicians, as usual, were called *on behalf* of the prisoner, and some conflicting, if not opposing, opinions, were advanced. *Dr. Archer* (Coroner) " thought that the burns had been inflicted after death ; saw the stomach, thought it did not look entirely healthy, as there was a turgid appearance of the vessels, showing that it had been a good deal stimulated. There was no pink margin round the burns ; never found an exception of death from burning that there was an absence of the pink margin ; did not consider it a sign of suffocation that the tongue protruded ; thought the eye was burnt after death. In death from carbonic acid, the countenance is generally placid, and it is not common for the tongue to be protruded ; the brain and lungs are more or less congested ; if there are no external marks, no person can say positively whether the persons died from natural causes, or from violence. If a person dies after a debauch, I should expect to find evidences of it in the brain or stomach. It is impossible to say how long after a person has been drinking, its traces would be lost from the system ; when the effect is gone, however, the liquor is gone."

Dr. Rawson testified, that ' he had attended post-mortem examinations in cases of death from suffocation, and lately, where two persons were suffocated by charcoal ; their countenances were swollen, and the eyes somewhat obtruded ; there was distortion of features (one more than the other, as the patient lay on his face) ; in cases of suffocation, the brain is generally congested, and the blood blacker in the different vessels than in ordinary cases, and the lungs more or less congested ; countenance more or less distorted ; in such cases should judge more from the blood in the arterial system, than from the brain ; there is no particular condition of the heart, except that there is black blood."

The testimony of *Dr. Middleton Goldsmith* was to the same effect.

In summing up the case, Mr. Warner, the counsel for the accused, among other remarks, said, that the medical testimony did not agree, and that it was filled with doubts and uncertainty. " The positiveness," he observed, " with which medical men give their testimony, is to be ascribed to the care they have of their own reputation in their profession, and to the fear they have of seeming ignorant of their profession. These witnesses disagree as to the indications of intemperance presented by the stomach of the deceased. Dr. Archer, alone, saw any. The fact will appear abundantly, that she was very intemperate," &c.

Mr. Brady quoted from Beck's " Medical Jurisprudence," where it is stated, that most physicians are not competent to make post-mortem examinations, and hence argued that those who made the dissection in the present case, were probably incompetent !

Judge Kent, in his charge, came to the conclusion, after a full recapitulation of the testimony, that 1st. *nothing positively certain was shown as to the cause of death; and* 2d. *nothing positively excluded the idea that it was occasioned by suffocation—the probability being in favor of the latter.* The Judge also instructed the Jury, that unless they found that the death was occasioned by *smothering*, no matter in what way effected, they could not find the prisoner guilty; although they might come to the conclusion that the deceased perished from burning, or in some other manner not stated in the indictment, and by the hands of the prisoner. *Verdict—not guilty.*

Remarks.—A careful analysis of the evidence in the above case can hardly fail to satisfy any well-informed physician of the guilt of the prisoner. And first as to the facts going to prove that the deceased was smothered. The position of the body—the position of the hands—the appearance of the countenance—the protrusion of the tongue—the pillow over the mouth and nostrils—the open eye—the absence of vesication and of the red line round the margin of the burn—the congestion of the lungs and right side of the heart—the empty condition of the left ventricle—the dark color of the arterial blood:—all speak but one language—all go to prove most conclusively, that death could have resulted in no other manner than by violent suffocation.

If suffocation from violence was not the cause of death, to what could it be attributed, with any degree of probability? Was it from intemperance or apoplexy, brought on by drinking? It would certainly be a strange coincidence that such should have occurred, attended with all the accompanying circumstances of so suspicious a character; but the post-mortem appearances contradict such a supposition. Had death been occasioned by alcohol, it could not have caused death in so short a space of time, three hours, except by producing apoplexy; and apoplexy of a character so grave as to destroy life so speedily must inevitably have left marks of extensive cerebral congestion, if not effusion. For example, a coroner's inquest was held during the present month, over the body of Johanna Prim, aged 61, who had been for twenty years a drunkard. After drinking nearly half a pint of gin, she fell suddenly head foremost into a bed, where she lay on her face for nearly two hours; and when she was taken up, she was found just breathing her last, and died almost immediately. On dissection, which was carefully made by Dr. Goldsmith, the vessels of the scalp bled freely on division, the blood being very dark; there were at least three ounces of bloody serum under the dura mater and considerable effusion under the arachnoid tunic; all the vessels of the pia mater were excessively turgid, especially in the ventricles, which contained a considerable quantity of serum; while the whole substance of the brain was studded with red points.—*Verdict*—death from *apoplexy*, induced by a large draught of gin, or from intoxication. I could give a number of similar cases, but it is unnecessary. It may, however, perhaps be laid down as a rule, that in cases of death from an excessive dose of alcohol, where it has resulted within six or eight hours from the time the liquor was swallowed, the brain will generally indicate the proximate cause of dissolution. The *exciting* cause is, of course, to be ascertained from other testimony and other circumstances. The stomach may or may not, contain any of the intoxicating fluid, but the smell, if it be a distilled liquor, will generally be present; nothing positive can be determined from the condition of the mucous membrane, nor from the lungs or heart. I think it very certain, therefore, that the deceased did not come to her death from the effects of intoxication. But was she not smothered by carbonic acid or some other gas? 'There was no proof,' said Judge Kent, 'of the existence of noxious gases in the room. If any, they must have come from the stove. The fire was very recently kindled; the top of the stove was off, and the coals were only partially ignited; and this occurred in a very large, and not very close, room.' The supposition that she died from the effects of the burning while asleep or intoxicated, also that it was a case of *spontaneous combustion*, as was gravely argued by Mr. Brady, are not worthy of a moment's consideration. The only rational conclusion, then, is that death was caused by violent suffocation, most probably effected by pressing a pillow over the mouth and nostrils of the deceased, while she was held in that position by manual force.

It is humbly submitted, whether the above case does not enforce the propriety of our Courts adopting a regulation which I have elsewhere suggested, namely, that where medical opinions are wanted to bear upon decisions involving life and death, to say nothing of character, the Court should summon such physicians of age and experience, as have made Medical Jurisprudence a particular study, and who have no particular bias for or against the accused. The mere fact of being subpœnaed by a person whose life is in jeopardy, naturally leads the witness to testify in his favor, if possible, at least; and there are few lawyers who have not skill enough to get from witnesses, thus situated, sufficient admissions to neutralize the positive testimony, however weighty, which may be offered on the opposite side. It is natural to lean on the side of mercy, and it is right; but as *medical opinion* in courts of justice is *evidence*, it is submitted whether it is strictly consonant with the strict demands of justice, that every person accused of crime should have the privilege of summoning whomsoever he pleases, provided he hails, under a professional garb, to give opinions, clashing, as in the above case, with principles of medical science, well known and established. It is this practice which has brought medical testimony into disgrace in our courts of justice, and made doctors upon the witnesses' stand, a standing butt of ridicule to the bar. For example, in the above trial, a man by the name of Draper, calling himself a physician, from a neighboring city, was brought forward, without knowing any of the particulars of this case, to put down or neutralize the testimony of Drs. Rogers, Putnam, &c., by contrary opinions of his own. He spoke with the utmost positiveness on every point that was raised—especially as to appearances on dissection, in cases of death from intemperance, suffocation, &c., although it came out that he had made no post-mortem examinations himself; and as to medical writers, he said "he had no confidence in them—they copy from each other, without making experiments;" to which the District Attorney replied, "They know as much as you by your own confession, for you say you have not made these experiments regarding which you testify." I, therefore, trust that a reform is not far distant; for who does not perceive that as medical testimony is, at least, theoretically regarded, every one accused of crime has it in his power to oppose countervailing evidence in every case; and this is actually equivalent to giving an individual the privilege in any trial, to get up and manufacture what testimony he pleases; and it must be admitted? The practice of appointing certain medical men, in a particular district, whose duty it shall be to testify in cases where medical opinions are wanted, as practised in Austria and other parts of the continent of Europe, would be attended with very great advantages, not only insuring a more just and equal administration of justice, but leading to the diminution of crimes, by increasing the certainty of their detection.

ART. V.—*Cases of Inflammation of the Synovial Membrane of the Knee Joint, cured by the Introduction of a Seton into the Cavity.* By J. P. STEVENS, M.D., of Liberty county, Georgia.

With Additional Remarks on the same, by JOHN LE CONTE, M.D., of Savannah, Georgia.

CASE I.—On the 20th January, 1842, Mr. S. W. aged 22, of rather full habit, remarkable hitherto for his agility and muscular strength, consulted me for a disease of his right knee. There was considerable swelling and some pain, referred to the inner condyle of the femur. I abstracted about 5 oz. of blood by cupping, and directed the knee to be rubbed three times per day with the ung. veratrine, and a roller bandage to be worn as tightly as he could bear it. With this course of treatment he gradually improved, and I heard nothing from him until the 11th August, when, from being very actively engaged for some time, the swelling and pain returned with more violence than ever. My associate, Dr. J. Harden, being called to visit him, he immediately plunged a lancet into the sac, and gave exit to a pint and a half of a bloody serous-looking fluid. A blister was immediately applied, but in forty-eight hours the accumulation was as large as ever. He was then removed to within a mile of my residence, and we visited him in concert. The knee, at that time, presented the following appearances :

Aug. 17.—There was a uniform swelling up the anterior part of the thigh and *between the patella* and the outer and *inner condyles* of the femur. There was no pain upon pressure, and the fluctuation was very distinct. Upon pressing the patella, it seemed to be completely *immersed* in fluid. There was no redness observable upon any part of the knee. We again opened the sac, and gave exit to about the same quantity of fluid, presenting similar appearances, but of rather thinner consistence, and more like synovia. A tight bandage was immediately applied, and directions were given to make use of the veratrine ointment three times per day. The peculiar sensations produced by the ointment were experienced without any interruption ; and under this course of treatment, the limb retained its natural size, and the following liniment was then employed ;

℞—Tinct. Canth. ʒ iv.
" Camph. ℥ ij.
Spts. Tereb. ℥ i.
Acid. Acet. pur. ℥ i.

The reduction continued slowly, until, from no appreciable cause, the swelling returned to its former size, within the space of twelve hours.

Sept. 12.—Evacuated the contents of sac, and inserted a silver catheter armed with a half skein of silk thread, for two inches upward, commencing midway between the patella and inner condyle of the femur; enjoined absolute rest.

Sept. 13.—Inflammation very much increased, swelling becoming uniform throughout the sac. Directed a dose of Ol. Ricini.

Sept. 14.—Pain and inflammation still increasing, heat of limb very intense, fever high at night, no appetite, great thirst.

Sept. 15.—Extracted the seton; local inflammation and pain undiminished. The limb to be kept quiet; a Dover's powder to be taken at bed-time, an emollient poultice to the knee, and a dose of oil in the morning.

Sept. 16.—Fever abated, heat and tension of the part much assuaged. Re-apply the poultice and let him take a half soda powder, at intervals of two hours.

Sept. 17.—No more fever since last night. Swelling still very general, and some heat; a slight chill about 9 P. M., and profuse perspiration in the morning. Still continue the poultice, and let him take $\frac{1}{8}$ gr. sulph. morphine an hour before expected invasion of chill.

Sept. 18.—No fever last night; swelling, heat, and pain almost entirely gone. Envelope the limb in a moderately tight bandage and saturate it with a solution of acet. plumbi.

Sept. 23.—The size of the knee almost reduced to that of the sound one; destitute of pain and heat, and flexibility rapidly returning. Continue the bandage, and take gentle exercise in an open carriage every day.

He continued to improve rapidly, and he is at this time perfectly well.

Case II.—Daphne, *ætat.* 28, about six months since, was brought to me with her right knee slightly swollen, complaining of a seated pain about the inner condyle of the tibia; no fever, good appetite, general health pretty good.

I made local abstractions of blood at different times, blistered, and rubbed the knee with various stimulating ointments, applied tight roller bandage, and administered constitutional remedies of various kinds, but the pain and swelling remained the same. Having failed in making any impression upon the disease, on the 12th December, I determined to introduce a seton, and my associate, Dr. J. Harden, concurring with me in opinion, we performed the operation. The general contour of the limb was almost precisely similar to the preceding case; but upon plunging the lancet into the sac, about half a pint of rich synovia flowed. I abstracted the seton about *four days* subsequently to the operation, and the same train of symptoms supervened as we have detailed above, only of a much more violent nature. Nearly two months elapsed before she was enabled to walk, but finally the knee resumed its natural size; and she now can walk with facility, but occasionally complains of a slight degree of pain in the original spot. I believe that the simple evacuation of the contents of the sac would have created a sufficient degree of inflammation. Although there has never been a re-accumulation of fluid and the patient is comparatively well, yet I apprehend that the same results might have been attained with much less of suffering.

Remarks.—The introduction of foreign substances into the cavities of any of the joints has always been regarded, by the most skilful surgeons, as *extremely hazardous*; for, from the violence of the inflammation and the high degree of constitutional irritation which necessarily follow, the most serious consequences are to be apprehended. It is of vital importance then, that we note accurately the phenomena of disease, discriminate between the different stages, and apply our remedies to suit the exigencies of each particular stage. By opening the cavity of a joint in the *first stage* of inflammation, we render a failure certain; but when the inflammation has advanced to the chronic stage, and the synovial membrane has become partially indurated, and the absorbents indolent, we can reasonably hope for success, as well as in cases where a salutary influence follows the injection of stimulating fluids into the serous sacs.

That the above are well marked cases of inflammation of *synovial membrane* resulting in effusiòn of fluid, we entertain not the shadow of a doubt; for *their history* and *symptoms*, sustained by *anatomical facts*, fully warrant us in the belief. The relative position of the bursa of the *ligamentum patellæ*, and the *subcutaneous bursa* situated between the patella and the fascia lata, with the *general contour* of the swelling, the pendent position of the patella, as it were *floating* in the *fluid beneath*, and almost *disappearing* by pressure, and the *form of the swelling* following *the course of the pouch of synovial* membrane situated between the tendon of the quadriceps extensor muscle and the front of the lower part of the femur, together with the absence of any pain or redness of the surface, show that the accumulation could not have been *elsewhere* but in the synovial membrane.

The course of treatment pursued, doubtless will be censured by some, for inconsiderate boldness or *rashness*; but, as the pathological developments in the first case were almost *unique*, we contend that extraordinary measures were demanded, particularly after observing the phenomena which succeeded the *first insertion* of the lancet—the evacuation of one pint and a half of *sero-sanguinolent* fluid, followed by almost immediate re-accumulation, and no pain or constitutional irritation consequent thereupon! Moreover, the most powerful topical applications, together with constitutional remedies, were employed with no permanent advantage; and we saw no alternative but in the employment of stimulating injections, or the introduction of a seton. Sir B. Brodie notices one case, the pathological condition of which simulated strongly our first case. He recommends the employment of topical depletion, epispastics, rubefacients, moxas, and sometimes the evacuation of the contents of the sack through a *small aperture*. We fulfilled these indications consecutively, with the exception of a moxa, but no advantage resulted. Constitutional remedies were also employed, but still the disease continued unchanged. Were we not then justified in resorting to any mode of treatment, which held out the least hope of saving the limb, and perhaps the life of the patient? The termination of each case was more favorable than we had anticipated, for we should have considered the patient very fortunate had he escaped with an *anchylosed* joint; but we enjoyed the gratification of seeing the *mobility* and *original strength* of the joint *almost entirely restored*.

Jan. 15*th*, 1844.

Additional Remarks on the same Cases. By JOHN LE CONTE, M.D., of Savannah, Georgia.

MR. EDITOR:—Herewith I send you the details of two cases of disease of the knee-joint, drawn up at my solicitation, by my friend, Dr. Josiah

P. Stevens, of Liberty county, Georgia. His associate, Dr. Harden, says that when the first case was under treatment, he was fully under the conviction that the fluid was contained in the synovial membrane; but, upon a reconsideration of the subject, taken in connection with the successful issue of the case, he is *now* disposed to think that it might have been seated in some of the neighboring *bursæ mucosæ.* But I think that it can be easily demonstrated, that the character and relative situation of the tumor, are *anatomically inconsistent* with the supposition. There are but two *bursæ* situated on the anterior aspect of the knee: and their position is such as to preclude the possibility of confounding an accumulation of fluid in either of them, with that contained in the synovial membrane. It could not have been seated in the small *bursæ mucosæ*, which are situated between the *ligamentum patellæ*, near its insertion, and the triangular flatness of the tibia above the tubercle; *for it is placed too low down.* (Vide Horner's Special and Gen. Anat. 4th Ed. Phil. 1836. Vol. 1, p. 303. Also, Quain's Anatomical Plates, Am. Ed. Phil. 1842. Bones and Ligaments. Plate 27, fig. 8.)

The only remaining *bursa* in this region is a *subcutaneous* one, of a larger size, *placed between the patella and the fascia lata*, which extends over its anterior surface. (Vide Wilson's Human Anat. Am. Ed. Phil. 1843. P. 130. Also, Dictionnaire de Médecine, 2d Ed. Paris, 1833. Tome 5. Art. Bourses Muqueuses, p. 538. Par. M. Ollivier.) The last-mentioned *bursa* is more liable to be inflamed than any other in the body. A tumor in this situation is described in the New York Medical Gazette, Jan. 5th, 1842, in which Prof. Willard Parker is reported to have made a singular aberration from his usual anatomical accuracy; for he says: "But *over the patella we have no bursa*, and consequently this swelling must have some other origin." (Vide New York Med. Gaz. vol. 1, p. 404. N. Y. 1842.) Accumulations of fluid in the *patellar bursa*, have such a peculiar character as to render a correct diagnosis very easy. "It raises the skin from the patella, *so that the latter cannot be felt.*" "A careless observer, judging from the general form of the tumor and the fluctuation of fluid, without noticing the greater redness of the skin and the *circumstance of the fluid being over*, *instead of under*, *the patella*, might mistake the case for one of inflammation of the synovial membrane of the joint itself." (Vide Sir. B. C. Brodie's Path. and Surg. Obs. on Dis. of the Joints. Am. Ed. from 4th Lond. Ed. Phil. 1843. P. 202.) In the cases detailed by Dr. Stevens, fluctuation was very distinct, and the patella was felt floating on the fluid, borne up by the distended synovial sac, and requiring some pressure to make it touch the condyles of the femur. In fact, the movable and floating condition of the patella, taken in connection with the characteristic form of the swelling, is *pathognomonic* of a preternatural accumulation of fluid in the synovial membrane of the knee-joint. There can be no question, therefore, that the cases under consideration were well-marked examples of what writers on surgery term "*Hydrarthrus*," or "*Hydrops articuli*" of the knee-joint.

With regard to the surgical treatment pursued in these cases, I must freely confess that its boldness seems to me to encroach so much upon *unwarrantable rashness*, as scarcely to be justified even by the extraordinary success which followed. Circumstances very seldom warrant the making of an opening into the joint in this disease; but excessive distension, in some long neglected cases, might certainly be an urgent reason for such an operation. Accordingly, we find that it has occasionally been performed with success by several surgeons. An interesting example, in which circumstances rendered the operation justifiable, is related by Mr. James Latta, which terminated favorably after the evacuation of *twelve ounces* of serum from the knee-joint. (Vide System of Surg., Edin., 1795, vol. ii., p. 490.) Sir Benjamin Brodie enjoins the following important precautions, when the distended state of the joint has induced him to venture upon evacuating the fluid by puncture: 1st. In a thin person, if a few punctures be made with an instrument, a very little broader than a couching needle, by means of an exhausted cupping-glass, applied over the punctures, a large quantity of fluid may be easily abstracted without the smallest danger, and with no inconsiderable relief to the patient. But, while inflammation exists, the relief is not permanent, the fluid being rapidly regenerated, so that in a day or two, or perhaps in a few hours, the swelling is as large as ever. If, on the other hand, the inflammation be already subdued, the absorption of the fluid usually goes on so rapidly that any more expeditious method of removing it is unnecessary. 2dly. If suppuration has taken place in the joint (not in consequence of ulceration, but from the surface of the synovial membrane), a free opening made into it with a lancet will often be attended with the best effects." (Op. Cit., p. 28.) He relates an instance which terminated successfully after having drawn off two or three ounces of turbid serum by puncturing. (Op. Cit., p. 48.) In the cases of *suppuration*, in which a free opening with the lancet is recommended, the object is to obtain a speedy cure by establishing *anchylosis*. Hence, the most prudent method of proceeding is, to make " a puncture with the needle first, and allow a small quantity of fluid to escape, so as to ascertain its nature. If it be not simple turbid serum, but actual pus, the lancet may be used afterwards." (Vide H. Mayo's Outlines of Human Path., Dunglison's Am. Med. Lib., Phila., 1839, pp. 68 to 69; also Brodie, Op. Cit., p. 33.) The foregoing observations are sufficient to show that, although the operation of opening the synovial membrane of the knee-joint is considered highly dangerous, yet that eminent surgeons have recommended it under peculiarly urgent circumstances, provided certain *precautions* be taken in its performance. On the other hand, Sir Charles Bell declares that, in dropsy of the knee-joint, " As to opening the joint to evacuate the fluid, the proposal is ridiculous, as you can always cause the temporary absorption of the fluid by pressure. You gain nothing by puncturing but the danger of an uncontrollable inflammation." (Vide Institutes of Sur., Dunglison's Am. Med. Lib., Phila., 1840, p. 317.) Under any circumstances, the operation is most unquestionably very hazardous. Even in the small punctured wound which is made in the operation for removing loose cartilaginous bodies from the knee-joint, it is often very difficult to prevent the supervention of violent inflammation and suppuration; yet, in the first case detailed by Dr. Stevens, not only was the lancet *repeatedly plunged into the synovial sac, but a seton was actually inserted into the cavity of the joint!* For I have been assured that the catheter, armed with the seton, was passed through the wound made by the lancet, through the cavity of the sac, so as to protrude the skin on the inner side of the knee, above the patella, and, by means of an incision, was drawn completely through, and yet no serious consequences resulted therefrom!! I have already remarked that surgeons have frequently evacuated fluid from the cavity of the knee-joint; but, so far as I know, this is *the first instance in which a seton has been inserted into the synovial membrane, in this disease.*

In some chronic cases of this disease, Sir Benjamin Brodie recommends the use of issues and *setons* in the adjacent *integuments*, with a view of producing an *abatement of the inflammatory action*, by establishing a drain in the neighborhood; but he has never inserted a seton into the *synovial sac* of the knee-joint, for the purpose of *exciting inflammation.* (Op. Cit., p. 29.)

In *scrofulous diseases* of this articulation, Sir Charles Bell has procured *anchylosis* (which in the advanced stage is the only means of cure) "by passing a seton across the knee." But, on the third attempt, he lamentably failed. "Nothing of this kind should be attempted unless in desperate circumstances, where the patient is prepared to submit to amputation if the effect should be dangerous inflammation." (Op. Cit., p. 319.) More recently, M. Bonnet, principal surgeon of the Hôtel Dieu, at Lyons, states that he has derived the most favorable results from the employment of *iodine injections in scrofulous abscesses of joints.* He uses it in indolent abscesses, "unattended by puffiness (*gouflement*) of the cellular tissue, or thickening of the synovial membrane, and occurring coincidently with emaciation, &c., in children of a scrofulous habit, in whom the powers of the constitution are much enfeebled." (London Lancet, March 11th, 1843; Am. Ed., vol. i., 1842–3, p. 548; also, New York Journal of Med. and the Collateral Sciences, N. Y., 1843, vol. i., p. 133.) The use of such remedies requires great pathological discrimination.

I had an opportunity of conversing with the subject of the preceding case, Mr. S. Winn, a highly intelligent young gentleman, in June, 1843. His general health was very good; complained of slight weakness of the joint as compared with the other, but scarcely perceptible; mobility of the limb perfect; every step, however, was attended with an audible *crack or snap*, which attracted the attention of his companions.

The quantity of fluid evacuated, in his case, was very extraordinary, as much as *three pints* having been drawn off in two operations. In the two cases formerly alluded to, the *first*, Mr. Latta's, gave exit to *twelve ounces* of serum, while in the *second*, Mr. Brodie's, only *two or three ounces* were discharged.

It is very seldom that cases are met with, in which the fluid assumes a sero-sanguinolent character, as it did in this instance; although we are not without several parallel cases in our surgical records. Mr. Arnolt relates a case in which the cavity of the knee-joint was filled with a "tolerably thick pus, of a uniform reddish color, as if from an admixture of blood." In a patient, under Mr. Cæsar Hawkins, in St. George's Hospital, who died of inflammation and gangrene of the lungs, with pericarditis and hypertrophy of the heart, whilst laboring under disease of the knee-joint, "the synovial membrane of the right knee was full of a dark-colored fluid, not purulent, but having the appearance of a thick synovia, tinged with blood." (Brodie, Op. Cit., pp. 16, 17.)

As regards tumors of the BURSÆ MUCOSÆ, a much bolder plan of treatment is usually warrantable, as they very frequently have no connection with the articular cavity. Mr. Latta has employed stimulating injections and setons in these superficial tumors with considerable advantage. (Op. Cit., vol. ii., p. 485.) Mr. S. Cooper cured a case of diseased bursa, by puncturing it, and introducing a tent into the opening. (Surg. Dic., Am. Ed., N. Y., 1832, Art. Bursæ Mucosæ.) Sir Benjamin Brodie recommends the introduction of a seton or tent into openings made in cases of enlarged bursæ, for the purpose of bringing on suppuration, and thus preventing a further accumulation of fluid. Where the bursa is situated superficially, as in the case of the one over the patella, it may be extirpated with as much facility as an encysted tumor. (Brodie, Op. Cit., pp. 203–205 ; also, Mayo, Op. Cit., pp. 86, 87.) Professor Williams of Dublin and Dr. Houston, have cured several cases of chronic tumors of the bursæ mucosæ and synovial sheaths of tendons, by the subcutaneous division of the sac, and the subsequent application of pressure. (Braithwaite's Retrospect of Prac. Med. and Surg., Am. Ed., from 4th Lon. Ed., No. 3., 1841, Jan. to July, Art. xlv., p. 86, N. Y., 1743.) M. Velpeau treats various kinds of serous cysts, enlarged bursæ, &c., about the knee, in the axilla, breast, neck, and other parts, by *iodine injections.* (Braithwaite, Op. Cit., Mo. 5, Jan. to July, 1842, Art. lxxxi., p. 143.)

It may not be considered out of place to remark, in this connection, that M. Gimelle has found the administration of *tartar emetic*, in large doses, very efficacious in curing dropsy of the synovial membranes ; causing complete absorption of the fluid, with abatement of all inflammatory symptoms. He has treated twenty-seven cases of dropsy of the joints successfully by this method. (Braithwaite, Op. Cit., No 2, July to Jan. 1840, Art. xxxii., p. 80.)

I fear that the interest and novelty of the subject have induced me to overstep the legitimate latitude of a *casual* correspondent.

I remain yours very truly,

John Le Conte.

Savannah, Feb., 20th, 1844.

Art. VI.—*Thesis on the Use and Abuse of the Saratoga Waters. Presented for the Degree of Doctor in Medicine.* By J. J. Delamater.

To the Professors of the Medical Department of the New York University.

Gentlemen,

In compliance with the requirements of this University, I have thrown together a few reflections on the use and abuse of the Saratoga waters, in connection with some general remarks on their peculiar virtues, and the classes of diseases susceptible of benefit from their curative effects. I am aware of the errors in judgment which would be likely to attend the convictions of a student of medicine, on practical subjects ; but having spent much time at Saratoga, during a few years past, I have had at least an opportunity to form a proper estimate of the therapeutical powers of the waters ; and in not a few cases, I have seen the sad results of their indiscriminate use.

Aware of the slight attention this subject has received from the Medical Profession, it was very natural that, in the selection of a subject for this occasion, I should fix upon this ; and it will be perceived that I have confined my remarks quite exclusively to the remedial effects of the waters. There are circumstances, which unquestionably modify these effects, among which, as most prominent, may be noticed a change of air, the necessary journeying by those from a distance, and the relief from the care and anxiety of business, which attend a pilgrimage to the Springs. These subjects are of much interest to the medical practitioner in all the aspects of disease, on account of the influence they exert in various affections, more especially in those of a chronic nature; and it would assuredly prove a rich field of contemplation to endeavor to point out their modifying influences, in connection with these waters. Had I ventured upon so wide a field of investigation, this Essay would necessarily have been extended beyond the limits proper for such an occasion. I may, in conclusion, justly remark that all the advantages of these curative aids, both in purity of air and relief from mental ennui, can be with as much certainty experienced at Saratoga as elsewhere, furnishing still an additional claim to the attention of the community. Unfortunately for those who have ascribed the whole merit of the benefit of a resort to Saratoga, to a change of climate, I may properly mention in this connection that those benefits have been experienced, in an almost equal degree, by those who have for years lived in the immediate vicinity of the Springs; and further still, that the deaths which occur at that village, which are few in proportion to the population, are very generally produced by a class of diseases to the cure of which no one pretends that the influence of these waters extend. With these few introductory remarks, this thesis is very respectfully submitted by

J. J. Delamater.

New York, February 2, 1844.

Among the hundreds who annually resort to this distinguished University, to draw instruction and science from so rich a fountain of learning and experience, it may readily be supposed, that the more ordinary subjects embraced in the researches of the student of medicine, have been yearly discoursed upon by the candidates for graduation, until the common characteristics of disease, the diagnosis, the prognosis, and the treatment adapted to our physical natures, have become uninteresting by repeated description: for it cannot be hoped that the mere tyro in the profession, who has hardly stepped his inexperienced foot upon the threshold, and has only looked from a distance upon the immense field spread out before him by the experience, the talent, and the indefatigable exertions of those worthies who have preceded him, could add anything new and striking to the oft-told history or pathology of disease.

I have, therefore, concluded that a slight deviation from the beaten track might not be unadvisable on this occasion; and with this conviction, I shall attempt a description of the waters of Saratoga and their various medicinal virtues, with some remarks on the use and abuse of them. In this hasty sketch, I shall endeavor to keep within the bounds of fact—the whole being the result of a very careful attention to their varied effects, during the past season, a portion of which was spent at Saratoga, in the medicinal use of the waters, and also in investigating very numerous cases with the history of which I became familiar. Saratoga is rich in fountains, and is the resort of a large and yearly increasing array of pilgrims from this and other lands; for the gaiety of Saratoga and the far-famed virtues of its waters, draw annually together thousands to drink from the sparkling streams which gush forth in such abundance in its midst, holding in solution the medicinal virtues of many of the most highly prized articles of the Materia Medica, in a state of union and combination, which increase in twenty-fold proportion their active powers.

And here, let me premise that these medicated agents labor under unwonted obstacles to their complete success—obstacles which, in ordinary circumstances and locations, would be pronounced more than a counterpoise to all hoped-for benefits. Thousands of the population of our cities and large villages, the wealthy and the dissipated, are there, with constitutions broken down, or much impaired by confinement, with digestive powers weakened by indulgence. Without self-denial enough to correct these pernicious habits at home, they hurry off to Saratoga, when the annual visiting season arrives, hoping that, forsooth, some magic charm will there be exerted upon them, altering the fundamental principles of their nature—an influence so potent as to overcome their own exertions to destroy themselves—and which will restore them to health and comfort in spite of all their own efforts to clog the wheels of nature. What, on the contrary, ought to be expected, but that here, where all the bounties of nature, which can tempt the fancy or gratify the taste, are offered in such rich abundance ; where the contributions of all lands swell the list of luxuries—the loaded tables spread out before the visitor ; what else, I say, could be expected, but that all the symptoms of impaired health would be greatly aggravated ? Does the slightly indisposed, while there partaking of those powerful medicinal agents, subject himself to the same restrictions, as to diet and exposure, which his home physician would impose upon him if treating him for the same disease ? By no means ; but, surrounded by luxuries innumerable, he gives full play to all his desires, eating and drinking in far greater excess, and of much more health-destroying viands, than he would dare partake of at home, if in the full enjoyment of health ; trusting to the powerful assistance of these waters, to carry the system harmless through a host of dangers, and even more, to restore health and bloom to the wan cheek, and elasticity and vigor to the tottering frame. And let it ever be remembered, as one of the crowning laurels of these waters, that many a one of these self-indulgent visitors has had his dreams of health more than realized, and that multitudes have been sustained through so severe a tasking of impaired physical powers ; and, after weeks of indulgence, instead of finding a stranger's grave, they have been restored to their homes in as comfortable a state of health as when they left to visit these fountains.

At this point in our remarks, it may not be inappropriate to review, in a general manner, the curative agents associated in the performance of the many wonderful results which have, year after year, given these waters a more extended reputation, and established them so completely in the confidence of the world. So great a solvent power does water possess, that it is rarely in nature found free from substances held in solution or suspension. When the quantity of such substances is so great as to impart a peculiar flavor, and, when taken into the system, a medicinal effect, the water is termed a mineral water. Of mineral waters there are several classes, receiving a distinguishing name from the most apparent quality imparted to the liquid by the substances held in solution or suspension.

Thus has arisen a diversity of names for the mineral waters of the world : those possessing a leading proportion of carbonic acid have been called acidulous ; those where iron is the most prominent characteristic, chalybeate ; where the purging salts most abound, saline ; while sulphuretted hydrogen imparts the name of sulphurous. Several of these prominent qualities are sometimes associated in the same water. Such is the case at Saratoga, where the first three classes are united, constituting an acidulous-salino-chalybeate water.

The waters thus characterized abound through a valley nearly twenty miles in length, here and there gushing forth through the superincumbent strata of rock in inexhaustible quantities. At the village of Saratoga, these springs have been found in the greatest abundance, and with properties far superior, in the treatment of disease, to those in any other portion of the valley. The most distinguished of these fountains are the Congress, the Putnam, and the Pavilion. Of these, the Congress spring takes the preference in the treatment of that very numerous class of diseases requiring cathartics, antacids, and diuretics ; and it is by far the most general place of resort of the visitors at Saratoga. This spring was discovered in 1792 ; and, from that time to the present, it has been gradually gaining in reputation and confidence. The water, when first dipped from the spring, is lively and sparkling, and it would be perfectly transparent were it not for the air-bubbles which rise thick and fast from its midst, imparting to it a slightly-opaque appearance. Its saline and gaseous qualities are readily perceived by the palate, imparting a slightly pungent taste ; but, when taken by those accustomed to its use, it forms a highly-prized beverage. So much attached to it do some become, as to make annual journeys from distant portions of our land, to drink from so delicious a fountain, even when no disease of the system requires its healing aid. By a very careful analysis of the water of the Congress spring, it has been found that it holds in solution and suspension, chloride of sodium, carbonate of soda, carbonate of lime, carbonate of magnesia, carbonate of iron, sulphate of soda, iodide of sodium, bromide of potassa, silica, and carbonic acid, of which distinguished list of medicinal agents, the saline, antacid, and iodide qualities, are the most conspicuous, the iron being less in quantity than in any other of the springs. When, therefore, these more prominent remedies are called for, no agent can be more happy in its kindly influences than this water ; but, should a lax and debilitated habit need bracing up and invigorating, recourse should be had to the more tonic Putnam and Pavilion springs.

At this stage of our subject, it may not be out of place to make a few general remarks on the adaptedness of the various substances held in solution, in the Congress spring, to the cure of disease, touching only on the general characters of the diseases in which their application has been curative, in the past history of medical practice, and among the most able practitioners of the art medicinal ; and, in this general review, we shall speak of the varied substances, in the order of the very admirable analysis of Dr. Chilton, of this city. First in order comes the chloride of sodium. This article is too well known to need much remark. It is one of those tonic stimulants which have been sought out by the whole animal family. As a condiment in daily use by man, its properties are very extensively known, and equally well known are its antiseptic qualities ; but it possesses other properties, as a medicinal agent, which as yet have not been very generally appreciated. It is both cathartic and emetic, and also a general tonic, when given in doses of from two drachms to one-half an ounce ; its cathartic powers are quite active, and while it fulfils all the ordinary indications, it, at the same time, stimulates and gives vigor to the digestive powers, and in no sense does it ever debilitate. As an emetic, it is of a mild and unirritating class ; while, at the same time, in doses of from one-half an ounce to an ounce, it is frequently prompt and effectual, never debilitating, and generally invigorating the stomach. As a clyster, it is in very common use, forming one of the most simple and, at the same time, useful ones, mentioned by authors, as it promotes not only the peristaltic action of the muscular coat of the intestines, but, in cases of debility, soon establishes the natural movements of the system. As an external application, its powers are very generally known, such as stimulating the skin and promoting diaphoresis, and thus drawing off, from the internal organs, the congestive accumulations of blood, which so often disturb their functions, and, if neglected, produce severe, and often complicated, diseases of the system; and, when daily applied in cold ablution, they prevent those frequent colds from the changes of the weather, to which so large a class of mankind are subject. To those afflicted with the scrofulous diathesis, it is an application of almost inestimable value, frequently, as in a case which has lately come to my knowledge, by strengthening the system and, at the same time, protecting it from the influence of cold, arresting disease when it has reached the very verge of tuberculous phthisis, and raising the corporeal powers to vigor and elastic health. Such is the nature of common salt, and so powerful is a remedy that we are accustomed to overlook, because it is so common.

Carbonate of Soda, the next in order on the list, is antacid and resolvent. It is given very generally in all those dyspeptic diseases, dependant upon the acidity of the primæ viæ; and it is also prescribed very frequently in gout and as a resolvent of the various uric acid concretions. It is also asserted by various authors of repute to possess the power of arresting the progress of scrofula and bronchocele. In the latter disease, one of the most able physicians of Geneva, in Switzerland, considers it more efficacious than iodine itself, although his views in this particular have not yet been confirmed by the profession in general.

The Carbonate of Lime, the next in order on the list, is strongly alkaline and antacid, and peculiarly adapted to that species of diarrhœa, depending upon an acid state of the primæ viæ; for it forms no combinations with the contents of the stomach which are at all purgative.

In the Carbonate of Magnesia, the next in order, we have an antacid, adapted to another state of the system, namely, when acidity is to be corrected, and at the same time costiveness to be overcome. The compounds of the magnesia with the acid of the stomach, are sufficiently cathartic to regulate the bowels; and, in the ordinary administration of magnesia, if no acid exists, we have only to follow the magnesia with lemonade, and our object is accomplished. It is also antilithic, in those cases in which uric acid is too abundant.

The Carbonate of Iron, the next in order, is one of the very best chalybeates we possess, as it is applicable to all the various diseases in which iron is indicated as an alterative, tonic, and emmenagogue, in cancer, neuralgia, chorea, and in that state of the blood in which its coloring matter is deficient. In fine, the general voice of the profession has pronounced it one of the most valuable remedies that we possess. Next, we have the Sulphate of Soda, cathartic and antiphlogistic in its effects; and although valuable as a remedy, it is now nearly superseded by the sulphate of magnesia in general use; the sulphate of magnesia possessing very similar powers, and at the same time, being far less unpleasant to the taste. Iodide of Sodium, still lower on the list, is one of the combinations of iodine, which possess very many of its specific powers. No class of remedies have, of late years, excited more attention than iodine and its compounds; and in scrofulous swellings, in glandular diseases, in thickness of the tissues, and affections of the joints, its powers are very generally commended, both internally and externally. It is, at the same time, a powerful stimulant of the digestive apparatus; in fine, the curative influences of iodine are so varied and far-reaching, that an attempt to do anything like justice to it, in so short an essay, would be presumptuous. Its discovery and introduction into general use, was one of the most valuable contributions to the materia medica, which the science of medicine has for many years brought to light; and as its various powers are more and more investigated, its reputation is the more decidedly advancing. Thousands can, indeed, already bless the day, which gave to them iodine as a remedy, for with it came restoration often of long lost health. The Bromide of Potassium has gained some little reputation in the treatment of glandular diseases, but its use has as yet been so limited, that the extent of its powers is not actually ascertained; but that it is of much value in the art medicinal, many able physicians have borne very ample testimony. Carbonic Acid, the omega of the list, is diaphoretic, diuretic, and anti-emetic, grateful in a beverage, a medium of solution of some of the other qualities of the waters, and a powerful allayer of gastric disturbance. As it removes the unpalatable taste of other substances in solution, it thus overcomes one of the great impediments to the administration of some very valuable remedies, and renders them, at the same time, less irritating to the stomach.

How potent and desirable a list of pharmaceutical agents does analysis exhibit pervading these waters, and happy indeed may it be considered for the health of the country that no depreciation has been detected in their qualities, although some of them have been known to the community for more than half a century. Indeed, a late analysis of the waters of the Congress Spring, since kerbed anew, shows conclusively that its active qualities have increased full one-fourth—some of the most desirable properties being the ones in which this improvement is the most perceptible. Blessed beyond example in so rich a source of health and wealth to her citizens, with a power unequalled of imparting relief to the physical maladies of her countrymen, with a bracing and balmy atmosphere, and a village rich in the varied attractions which can entertain and make happy, long may the crystal streams of Saratoga remain a joy and a blessing to our land!

Let us now take our stand near the Congress fountain, one of the twenty with which this valley abounds. See the thousands pushing and jostling each other aside to get within reach of the prized waters. Glass after glass does each one quaff, without regard to the difficulties under which he is laboring, entirely ignorant whether his disease requires an alterative, a diuretic, an antacid, a cathartic, or a tonic, only intent upon drinking the utmost quantity of water; and when the loaded stomach refuses to receive more, promenading about until more room can be obtained, again to go through the same process of drinking. After three or four successive scenes of a similar nature, having partaken, in many instances, of at least three quarts, he hurries off, at the ringing of the bell, to partake of the morning meal; again, at various times and seasons during the day, to pursue the same heedless course, only intent upon drinking the utmost quantity poor human nature can sustain.

To those acquainted with the process of digestion and the laws which govern the assimilation of food, it need not be told that such an oppressive accumulation of fluid in the stomach, at the time of partaking of a meal, would most effectually arrest and retard the action of the digestive powers, by weakening and diffusing the gastric juice, and preventing the very essential chemical action which it should exert upon the solid contents of the stomach. Suffice it to say, that one who would tell you at home, that he does not partake of any fluid at or near the time of a meal, will here sit down, without any anxiety on the subject, to a hearty breakfast, fresh from drinking eight or ten glasses of spring water.

There is a state of the system which may, from want of a better name, be called the *avant-courier* of disease. It constitutes the premonitory warning of a long catalogue of organic affections, generally of a chronic nature—a class, which, when fully established, is most difficult of cure. To this state of the system, a large class of persons is subject. It commences with a slight uneasiness of the bowels after each meal. The one or perhaps two daily evacuations to which the patient has been for years accustomed, are interrupted in frequency. The difficulty appears to lie in a want of tone of the abdominal canal, producing no interruption in the number of daily discharges, but rather a diminution in the amount, leaving an accumulation in the passages of a large amount of the more coarse and irritating fecal matters, which have passed, in an imperfectly digested state, from the stomach and the digestive apparatus. This accumulation clogs the natural channels of the system, giving rise to a constant excitement of the mucous lining of the canal. The patient is not, in the common acceptation of the term, sick, but he feels a continual or periodical uneasiness, and not considering himself sufficiently out of health to require a physician's advice, the disease progresses, until some of the complicated, and perhaps irremediable organic, embarrassments are fastened upon him. Irritation has produced a disease of the stomach, the liver, the kidneys, or the bowels, and at last a long application to judicious medical treatment alone can give promise of help. To one suffering or disturbed by the earlier symptoms above mentioned, the Saratoga waters hold out very strong hopes of recovery; and even when he has reached the more serious subjection to organic disease, a well directed course of these waters holds out perhaps fully equal hopes with any other plan of treatment. Let him commence at first with a well selected cathartic, adapted to the state of the system, to be followed by a very thorough course of the waters, continued for several weeks at least, taking occasionally, when the secretions are deranged, a blue pill or some similar auxiliary at night. In this manner, the disease might be overcome. Should the same train of symptoms recur, the same course might be pursued; and by degrees, the susceptibility to disease would be lessened, and in very many cases entirely overcome. We have already remarked that where an evacuation of the contents of the intestinal tube is indicated, and at the same time it is desirable to subdue, or at least not augment, the irritation, this remedy is the one which holds out the greatest promise of success. Its superior efficacy in such cases is due to the slight excitement it produces in the system—a feature which distinguishes these waters from most of the other remedies of the Materia Medica, as usually prescribed. Moreover, they do not interfere, if taken at seasonable hours, with the digestive process; on the contrary, they augment the powers of the assimilating functions, and give, at the same time, tone and vigor to the system; and when persevered in for months and even years in moderation, they barely produce any injurious effects. True, it is by many physicians on the Continent asserted that the saline particles in the water coming in contact with the mucous linings, produce irritation, but this has not been the case usually at Saratoga. It may be that some peculiar property exists in these waters preventing the ordinary irritating effects, or perhaps they are rendered more easy of digestion, and few of the particles pass, in an unchanged state, through the intestinal canal. At all events, observation has fully attested that, in quite severe irritation, these waters may be used for months in a rational manner, with the most happy results to the whole system.

A large class of visiters go to the Springs with the most implicit confidence in their healing powers. They have heard that the waters are most potent health-restorers. Their friends, many of them languid and feeble, have experienced their health-renovating powers, and why may not they anticipate the same results? Inspired with phantom hope, they fly with railroad speed, the sooner to be on the way to recovery, and drink with full assurance of relief, until, surrounded by thick-thronging troubles, growing weaker and still weaker, with all their symptoms aggravated, until ultimately they despair of help. Perhaps at this moment some kind friend, for there are always those on such occasions who stand ready to impart knowledge and advice on subjects of which they are themselves profoundly ignorant, steps in and solves the reason of the want of success. "You have not drunk enough," says the kind adviser. Depressed in spirit and weakened by disease, the poor invalid has not had courage to encounter more than some ten or twelve glasses each day; the dose must be doubled; and now hope again beams upon the countenance of the sick man, and with his little remaining strength, he makes the effort to atone for past inertness and want of vigor in his course, by renewed ardor in the use of the healing remedy. But health eludes his grasp, and with each renewed effort, the powers of the system give way with fearful rapidity. With little remaining strength, he hurries home to die among his friends, the unhappy subject of a gloom and despondency, which, with ten-fold speed, are hurrying him along that downward road, which terminates in the sepulchre. Others of this class, when they perceive the powers of nature giving way, under the use of the waters, by the advice of some more judicious friend, as from their own sensible convictions of its necessity, call to their aid the long experience and skill of some of the able medical advisers, with whom Saratoga is blessed; and setting out aright, with a compass to guide them, those very qualities of the waters, which were undermining their few remaining powers, are so controlled and made subservient, as to prove the most direct invigorators and health-restorers; and finally these invalids return to their friends, fresh trophies of these healing waters.

Still another class, and I would that it were more numerous, reach the Springs fully impressed with the importance of partaking of the medicinal agents found there, in a regular and sensible manner. Instructed by judicious physicians at home, convinced by the sad results of other cases within their knowledge, or impressed with the character of the pharmaceutic powers found by analysis concentrated in the waters, they know that, like other remedies, applied in the varied treatment of disease, judicious and careful advice from those experienced in directing the use of them, can alone furnish any reasonable hope of benefit. On arriving at the Springs, they call to their aid some physician who has made it the business of years to study the medicinal effects of these waters; and if, on a careful review of the case, the use of the waters would give promise of proving beneficial, a plan of treatment is proposed to them, by strictly pursuing which, they may hope for all the advantages of the waters, and at the same time avoid all the risks of their abuse.

An opinion has been very generally spreading through a certain portion of the community, during the last few years, that these fountains are the universal panacea, adapted to all the varied ills physical man is heir to—a spring of life, giving health and vigor to all who repair to them. Varied and far-reaching as are the ills which may hope, by judicious management, for amelioration here, no intelligent spectator of the concourse of visiters can fail to see that there are cases beyond the reach of this remedy—cases in which these waters, if their use is persisted in, would produce most disastrous results; and further still, it must be admitted that these classes of disease are not few in number, nor restricted in the list of victims yearly sacrificed on their various altars. Some of these diseases are, too, of a class in which the deluded victim hopes on, even amid injudicious and hurtful remedies, constantly improving in his own estimation, but never better; and thankless and afflictive is the task of him who should nip the bud of hope. Many such, doubtless, are seriously injured; many, perhaps, are yearly hastened to their graves by these fountains. Had this class, even on arriving at the Springs, sought competent advice, months and perhaps years, might have been theirs on the shores of time, which have been stolen from them by the very remedies, in the pursuit of which they were so sanguine of relief.

What scientific or sensible man is not astonished at the rage for quack nostrums, which characterizes the present age, and what philanthropist does not lament the wide-spread mania for panaceas, which is blasting, as with mildew, the hopes and prospects, yea, the life itself, of thousands of deluded victims? The pharmaceutical powers contained in these waters, are exceedingly valuable; and when properly administered, they will do much toward assisting the powers of life, in the struggle with the great adversary of mankind. But, cast loose upon the world, like the panaceas, to take their place in every household, as a cure-all, to be administered in every state of the system, in chronic and acute, in febrile and inflammatory, as well as diseases of debility, who can estimate the injuries inflicted, or call the victims any less than legion! Utterly destitute of any knowledge of the anatomy or physiology of the human system, and equally so of the effects of medicines, one of these panacea-prescribers—blind guides they may be very appropriately called—leads another, classing all who recover in spite of the remedy, as trophies of its curative effects, while all who die under the infliction, are cases which no remedy could control. Who can tell the fearful results of, or point out the limit to, this evil! While mankind will place implicit confidence in all that the ignorant nostrum-seller asserts, and the no less ignorant, but less guilty, partaker of his nostrum, confirms, what hope can be reasonably indulged, that this flood of death will stay its course, and that science and skill will again maintain their deserved character, among the mass of mankind!

The very habit of relying upon a panacea, begets still another habit, namely that of almost constant dosing for all the slight pains and aches to which man is liable; and which would, if left to themselves, be very promptly remedied, by the vis medicatrix of the system. This habit so much impedes the complicated wheels of our physical nature as to ensure the continuance of the same, or the generation of a new and more alarming train of evils. Among this class may justly be ranked the whole array of mineral waters, when indiscriminately used—better only, for the reason that their characters are better known than those of the quack nostrums; and those who will resort to their use without competent advice, must expect to reap some of the sad consequences of their folly. There is a lamentable ignorance among practitioners of medicine, and more particularly country practitioners, on the subject of these mineral waters. They have heard of the springs and the benefits resulting to invalids from their use, and straightway they recommend to some afflicted patient, who trusts to their advice and counsel, and on whom perhaps they have exhausted their catalogue of remedies in vain, to visit the Springs. "Saratoga," says the physician, "is doing wonders—and perhaps you may be benefited by a short stay there." Knowing only that there is such a place as Saratoga, and that it is thronged with health-seekers without any definite knowledge of the principal agents impregnating these waters, he sends forth one who has committed his life to his care, without chart or compass, to an experiment which may prove a final, and a fatal one. True, it may be said, that if the Physician were perfectly acquainted with the analysis of the springs and the minerals that the waters hold in solution, he could not safely give instructions as to their use, from want of any certain knowledge of the powers with which these agents would act when dissolved, or from ignorance of the modifying power of secret agencies, not yet discovered by analysis; for, that certain substances do exist in mineral waters which have as yet eluded all chemical tests, is acknowledged by competent authority—and this fact no one will feel at liberty to deny, who has marked the very extraordinary, and not yet accounted-for, energy, with which these waters act upon the human system. In truth, it cannot be doubted that one grain of iodine or of iron contained in this solution, is fully equal to ten or twenty grains introduced into the system in any other known manner. Analysis, therefore, although it may throw some light on the class of diseases which would be likely to receive benefit from these remedies, could not be a safe criterion by which to prescribe their use; and he, only, who has had opportunities for watching their usual action, in a long series of diseases subjected to their influences, could safely say how far it would answer to go, and assign the limits beyond which it would be hazardous to venture.

Tell me not that I am making a too serious matter of a harmless agency. Would the skilful and scientific physician, who, after racking his brain, in vain, for further remedies at home, yearly sends numbers of complicated diseases, as a *dernier ressort*, to these fountains, acknowledge that he only sent them to a negative remedy, to undergo a mere milk and water treatment? The physician who doubts the potent influences of these waters, for good or evil, pronounces his own advice to his patients in severe and intractable cases—to try the waters, both fraudulent and inexcusable. That they do possess power for good, many a feeble frame, for years a victim to disease, now buoyant—many a wan cheek, now blooming with health—and many a sunken eye, now sparkling and bright—can bear record; and could the after history of the health-seekers, who have returned disappointed and enfeebled to their homes, be traced backwards, from the charnel-house, it would be fraught with sad memorials of the destructive agency which gave a new and irresistible impetus to the downward course of disease. Are there then no cases in which so potent a remedy as iodine might give an unhappy bias to disease? Can so powerful a tonic as iron, in large doses and in the most effective form, be in all cases given with impunity? Do energetic cathartics never do harm, and do perseverance in diuretics never prove detrimental? Then may these waters, possessing all their combined powers, be indiscriminately used, and no unhappy results be anticipated. The water of Congress spring, when taken in liberal quantities, will generally act as a cathartic, or in less quantities, slightly move the bowels. When a cathartic effect is desirable, the water should always be taken in the morning; and for this purpose, six or eight glasses, taken at least an hour before breakfast, will generally prove sufficient. Commencing quite early with two, or at most three glasses, and after a suitable amount of exercise, repeating the glasses until the requisite quantity shall have been taken. When this quantity fails, as it often will at first, to move the bowels before breakfast, some other cathartic of a kindred nature should be conjoined, to ensure an operation. After a few days at most, the water itself will act without assistance, and even in diminished doses. To dispense with the great quantity which is sometimes necessary to produce catharsis, and especially in those irritable cases where the quantity of the fluid produces disturbance in the system, and where even the milder adjuncts of the Materia Medica produce gastric disturbance, a plan might be adopted with very manifest advantage, which has long been pursued at the mineral springs on the Continent and in England. The water could be concentrated by evaporation to such a degree that a small quantity of the concentrated water, added to the first glass taken in the morning, would be sufficient to give the necessary cathartic effects. After one or two thorough evacuations, the water should be left to its legitimate effects, only so regulating the quantity as to produce one or two movements of the bowels each day. If the alterative influences of the water are required, two glasses taken before each of the daily meals, and perhaps also before retiring for the night, would in most cases be the judicious course; but very often associate remedies would be imperatively called for, to regulate and assist the operation of the waters. It is not unusual among the physicians at the Springs, in many of the cases requiring the alterative influences of the waters, to prescribe at the same time either minute doses of blue pill or hydriodate of potash; and in very many cases, it is done with the most manifest advantage. It has already been mentioned that, as some of these springs are strongly impregnated with iron, they are, therefore, tonic and stimulant in their effects, the influence of the tonic being far more potent, when the water produces no catharsis.

Those of plethoric habit or who are laboring under diseases of even a slightly phlogistic nature, who drink the waters without experiencing their cathartic effects, and who use no other aid to evacuate the bowels, are apt to suffer from strong determination of blood to the head, fullness, and throbbing of the carotid and temporal arteries, with hard full pulse, flushed face, and sometimes dimness of vision, constituting many of the symptoms of approaching apoplexy. Discouraged and affrighted, as well they may be, by these effects, they fly the Springs as agents of evil to them, seriously injured by the trial. Had such patients, even at that point, had the excitement and the general plethora of the system reduced by blood-letting or some other competent antiphlogistic course, under the judicious advice of some intelligent medical counsellor, all these troubles might have been removed, and the valetudinarian have been most essentially benefited by an after course of the waters.

Among the pilgrims to this shrine of health, may be found a numerous and constantly increasing class of the wealth, the beauty, and the talent of the land, who have fled from the noise, the tumult, and the midsummer heat of a city, or from the pestilential diseases of Southern climates, to this most gay and fashionable watering place, attracted by the balmy air and the intelligent society congregated at Saratoga. Here they spend the few months of the visiting season, promenading through shady walks, reclining on soft ottomans, or circling through the mazy dance, variegating the scene by an occasional excursion to Saratoga Lake, or the Lake of the Silver Waters. Even to this class, a sojourn at the Springs is not without benefit; for, in the early morning, many, who at home would hug their pillows until near midday, are up, and enjoying the invigorating morning air, walking through the highly ornamented grounds to the inspiriting tones of a rarely excelled band of musicians, and occasionally sipping a glass of the delicious waters; and thus is debility transformed into vigorous strength, and the paleness and languor of indulgent ease, into the elasticity and bloom of beauty.

Could these health-giving fountains be used with judicious care—could the waters, like the articles which impart to them their virtues, be prescribed, and their effects overlooked by competent medical advisers, how much greater a blessing would they prove to the community!* Thousands are now yearly invigorated and restored to health by them; and if used aright, thousands more, who are only momentarily benefited, or absolutely injured, might experience the same happy effects! The tide is setting at a rapid rate toward Saratoga, and could the physicians of our land become acquainted with the varied adaptedness of these waters to the diversities of disease, and could they mark the rapid improvement of those who have been suffering for years under unyielding chronic complaints, and more especially diseases of the digestive organs, the yearly visitants would be doubled and trebled, until scarcely a village or a district in our land would remain unrepresented. Let medical men learn to send their patients to the care of some scientific physician at the Springs; and among the twenty fountains with which Saratoga valley abounds, with essentially differing waters, an agent may be found which will not fail to give relief to thousands, who would otherwise sink into a premature grave.

Would the invalid, whose case is susceptible of benefit from the use of these waters, and who possesses the requisite physical strength, come here with the determination to use his privileges aright—would he rise at early dawn and repair to the fountains, and amid the surrounding thousands, all life and wit and gaiety, drink of the sparkling stream—then wander about the shady avenues and walks until weary of exercise; and after a due season of quiet, partake of the morning meal, plain and simple, but nourishing, throwing aside all the superfluities and luxuries of the table and the dissipations of the bar-room; then with due discretion, pass the day in agreeable exercise, temperate in all things, and daily using properly the very delicious baths, prepared here in such abundance, how many would have cause to thank a kind Providence, for this instrumentality in restoration to health and strength! And what multitudes now in the morning of youth, whose sunken eyes and emaciated forms mark the touch of the destroyer, would live to shine in the saloon and private circle, the joy of their friends and the ornaments of society!

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* In their renovating influences, they would perhaps approach nearer than any others, to the realization of the vision of the far-famed and long-sought fountain of rejuvenescence, pictured forth in such glowing terms by Ponce de Leon, and sought after with so much enthusiasm by the believers in the reality of this delusive phantom of a chivalric but disordered mind.

PART SECOND.

Critical Analysis.

ART. VII.—*Fifth Annual Report of the Registrar-General of Births, Deaths, and Marriages, in England.* Second Edition, revised and corrected. London: 1843. 8vo., pp. 604.

THE interest and value of these Reports have augmented every successive year in a geometrical ratio; and this last one is a production rich in results, not only as regards the public health and the development of medical principles, but in reference to many of the hidden laws of political economy, and especially in the construction of a *National Life Table*, on which assurance and some other societies base their complex operations. But we will here confine our analysis to what is more strictly medical.

In our own country, it may not be generally known that there is one State, Massachusetts, which has a registration of births, deaths, and marriages, with the specified cause of death, based, in a great measure, upon the details presented in that of England. Although the results of the two years in which it has been in operation are not deserving of confidence, yet it is a noble enterprise every way worthy of being prosecuted. As in England, where the first annual registration was of the most discouraging nature in consequence of its deficiencies, so it will be found that in Massachusetts, as is proved by the much-increased correctness of the second annual Report, there will be an improvement in a geometrical ratio. Indeed, it becomes the State of Massachusetts, in view of her advanced social condition, to set this commendable example; for, when it shall be there once in successful operation, it will gradually be extended over the other States, until, finally, we shall realize the grand desideratum of a *National Registration of births, deaths, and marriages, with the causes of death.*

The following extract presents, in a condensed form, the state of the public health of England for 1841:

> "The number of deaths," says William Farr, Esq., to the Registrar-General, "registered in the year 1841 was 343,847, less by 15,787 than 359,634, the number registered in 1840. The deaths were most numerous in the winter, but there were considerable fluctuations in the mortality of winter, and of the other seasons in the four years, 1838–41. As this is discussed in the Report, I shall only subjoin here the temperature of the several months in the year, deduced from the observations at the apartments of the Royal Society, Somerset House, London:—

MEAN TEMPERATURE.

Months.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1838	31	35	44	45	53½	61	63	63	57	52	43	40½	48.9
1839	39	41	41	43	53	62½	62	62	58	51	46	40	49.9
1840	40	39½	39	48	..	63	62	65	57	49	46	35	50.0
1841	36½	37	49	50	60	61	62	64	59½	52	45	43	51.7
1831–40	38	40½	42	47	55	62	65	64	58	52	44½	41	50.76

"The temperature of January and February was below; that of March April, and May, above the average. The mean temperature of the year was 2°·8 above that of 1838.

"The mortality was ·001289 less * in 1841 than in the previous year. In 1840 out of a million living 22,878 persons died; in 1841 out of the same number living 21,589 died. Of the decrease, 898 in the 1289 was in the *zymotic* class of diseases. I use the term 'zymotic' here for the reasons assigned in the Appendix to the Fourth Report, and, because independently of any hypothesis, a simple designation like this, of the first group of diseases, is more convenient than the periphrasis 'epidemic, endemic, and contagious diseases.' It is a property of zymotic diseases to prevail more at one time than at another; to become epidemic, or endemic, or contagious, in certain circumstances; but as their essential nature does not alter, they have been invariably classified under the same heads. The epidemic character of the diseases of the class has been exemplified very remarkably by scarlatina which raged with increasing severity, until 1840, and continued the prevailing epidemic of 1841, though it had then begun to decline:—

	1838	1839	1840	1841
Deaths by scarlatina, ...	5,802	10,325	19,816	14,161

"14,161 persons, principally children, died of scarlatina in 1841; and 19,816 had died by this malignant malady in 1840; the decrease was 5,655.

"*Measles* had been epidemic, and destroyed 10,937 lives in the year 1839; the deaths from measles in 1841 were 6894. *Small-pox* was fatal to 16,268 persons in 1838, to 9131 in 1839, to 10,434 in 1840, and to only 6368 in 1841. It was less fatal in 1841 than either measles, scarlatina, or hooping-cough. This happy result is probably to be ascribed in great part to the Vaccination Act, which came into operation in 1840; and may be expected, by extending the application of Jenner's great discovery, to effect a still further reduction in the sufferings, deformity, and mortality attendant on small-pox. *Hooping-cough* fell to the lowest ebb in 1840; *diarrhœa* and *cholera* were less fatal in 1841 than in 1840; *influenza*, though the mortality it occasioned was not great, grew more fatal every year, and in 1841 is stated to have been fatal to 1659 persons. *Ague* followed nearly a similar course; *Typhus* upon the whole declined; the mortality it occasioned in 1838 was 1271, while in 1841 it was 952 to 1,000,000 living. *Hydrophobia*, it will be observed, only proved fatal to 58 persons in four years; less than 1 in a million annually; but this kind of death is so distressing, that it is gratifying to find a decrease of 17 in the four years; 24 died of hydrophobia in 1838, only 15 died of the disease in 1839, 12 in 1840, and 7 in 1841. It is hazardous to speculate on the decline of a fluctuating disease of this class; but we shall probably not be very far wrong in ascribing the diminution of the number of cases to improved police regulations.

"The deaths of 48,053 persons were ascribed to diseases of uncertain or variable seat. The term 'inflammation,' without specification of the part inflamed, is so vague that no use can be made of the facts. Many cases of 'hemorrhage,' returned 'rupture of a blood-vessel,' &c., belong to phthisis, to which head hæmoptysis, or spitting of blood, was referred. *Dropsy* is the most formidable disease of the class; the number still remains the same, although it has been the rule to refer all cases to the heart and kidneys, when affections of those organs have been specifically assigned as the organic cause. The deaths by *mortification*, a disease easily distinguished, have been very uniform throughout the four years, namely 1343, 1314, 1346, 1329; so have the deaths by cancer, 2448, 2691, 2786, and 2746. The 16,189 cases of death by debility, in 1841, comprise a great number of infants prematurely born, or weakly from birth, without the marks of any specific disease. Fatal malformations were 214 in 1839, 211 in 1840, and 206 in 1841. *Sudden deaths*, or cases in which inquests were held without determining the causes of death, increased but little from 1839 to 1841. If the deaths by hemorrhage, aneurism, and apoplexy added to the 'sudden deaths,' be supposed to represent with any degree of approximation the danger of sudden deaths, it will be found to have been very uniform through the four years, namely, ·000675, ·000669, ·000671, and ·000687. It is about 1500 to 1 that a person will not be cut off suddenly by any of these diseases: but the danger is increased by violent deaths, many of which take place rapidly. Childbirth, the zymoses, tetanus, and some acute inflammations, also put a speedy end to life. The sudden deaths of children are generally ascribed to 'convulsions.'

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* This is the arithmetical difference of the rates of mortality; and a similar mode of expression must be understood in the same sense in other parts of the paper.

"*Cephalitis* and *hydrocephalus* have prevailed with remarkable regularity during four years: the annual mortality of the two was 667, 669, 688, and 671 deaths out of a million living. Apoplexy and paralysis together destroyed 710 yearly in the same population. To convulsions 24,563 deaths (·001575) were ascribed in 1841, but the number was smaller than in 1838, which may probably be considered less an indication of decrease than a proof that the primary diseases are now more frequently returned. More deaths were referred to delirium tremens than in previous years. The mortality by diseases of the nervous system, if we except convulsions, remained the same.

	1838	1839	1840	1841
Deaths out of 1,000,000, by diseases of the nervous system, ...	3,365	3,255	3,302	3,180
Deaths by convulsions, . . .	1,763	1,680	1,673	1,575
Deaths by other diseases of the class, .	1,602	1,575	1,626	1,605

"Diseases of the respiratory organs were fatal to 92,183 persons in 1841; the mortality which they occasioned was nearly 6 in 1000; it was 5911 in a million, or 132 less than in 1840, when 6043 in a million died of pulmonary affections. Of the decrease of 132 to a million, 55 was in pneumonia, and 75 in phthisis. The mortality by these two diseases remained, nevertheless, excessively high:—

	1838	1839	1840	1841
Pneumonia:—				
Total deaths, ...	17,999	18,151	18,582	17,997
Deaths to a million living, . . .	1,219	1,200	1,209	1,154
Phthisis:—				
Total deaths, ...	59,025	59,559	59,923	59,592
Deaths to a million living, . . .	3,996	3,939	3,897	3,822
Other diseases of the respiratory organs:—				
Total deaths, ...	13,799	12,855	14,402	14,594
Deaths to a million living, . . .	934	850	937	935

"Hitherto medicine has been able to effect little for the cure of confirmed phthisis, although there can be no doubt that attacks are warded off, and that life is prolonged by change of air, regimen, and the judicious administration of remedies. It is, on the other hand, a current doctrine in the schools, that pneumonia can be absolutely arrested by the free use of the lancet. How, then, it may be asked, does it happen that 17,997 persons died of pneumonia in 1841? A great number of the cases occurred in young children, and in old people, as incapable of bearing depletion as resisting a formidable disease; in many instances medical relief would be applied for too late; but after every allowance, 18,000 deaths annually must render the success of our present system of treatment less unequivocal than could be desired.

"The progressive increase in the number of cases registered as heart disease, from 3319 to 4246, may be ascribed to the diffusion of new methods of diagnosis, and to improvements in the character of the registration. It will be recollected that many dropsies, of which 13,095 persons died, are the consequence of retarded or obstructed circulation, the heart and its valves being the most common seat of the obstruction.

"The deaths by diseases of the digestive organs were 22,398. The mortality was 1436 in a million, or 29 less than in the previous year. The mortality by teething and convulsions together was 2 per 1000 in each of the three years 1838 to 1840, and 1·9 per 1000 in 1841. Of gastritis and enteritis (including all cases returned as inflammation of the bowels) 6980, peritonitis 300, tabes mesenterica 1070 cases were distinguished in 1841. The deaths by hernia remained remarkably constant in the last three years—474, 480, and 475; in 1838 they were 507. Colic, ileus, intussusception, and stricture of the bowel, taken together, proved fatal in the four years to 968, 881, 976, and 1067 persons. Six deaths were ascribed to the pancreas, 18 to the spleen. The aggregate mortality by jaundice, hepatitis, and other liver diseases, was remarkably constant in the four years—262, 264, 267, and 261 in a million. If ascites, which is frequently the consequence of cirrhosis, or 'hobnailed' liver, be added, the mortality will be slightly increased, or 266, 272, 280, 273. Of the 4068 deaths in 1841, it will be perceived that 864 were ascribed to jaundice, 498 to hepatitis, and 2706 to disease of the liver, without further specification.

"The same regularity which was evident in some other cases was maintained in the mortality from diseases of the urinary organs during the four years; it was 112, 101, 110, and 106 in the million. The deaths by diabetes, in which sugar is secreted, were 207, 214, 233, and 253, indicating a slight increase in the mortality from this peculiar disease. The deaths from stone and gravel were 261, nearly the same as from diabetes. In previous years, the deaths from stone and gravel were more numerous.

"Forty-four deaths were ascribed to ovarian dropsy in 1841, 43 in 1840. Only 107 deaths were referred to paramenia in 1841, this term including the peculiar maladies of females, and what is often called the 'turn of life,' which is attended with much mental disquietude and apprehension, but not much real danger. It may be supposed that the deaths by paramenia are much understated; but this is not certain, for it is an error to imagine that the age of 40–45 is an age of greater danger than 50–55, or upwards.

"1081 deaths were ascribed to rheumatism, 47 to arthritis, and 1161 to 'diseases' of the joints. Rheumatic fever will, we may hope, in time be clearly distinguished from the chronic affections with which it is at present confounded, under the term 'Rheumatism.'*

"About two persons in a million die of carbuncle every year; and, considering that the numbers are small, they fluctuated very little in four years—35, 38, 33, and 28. 12 in a million die of external ulcer, 7 of fistula, and 5 of other cutaneous diseases. These affections would be frequently complicated by, and would complicate, other diseases. It will be observed that several of the most common, painful, and troublesome complaints, which occur in surgical practice, add little directly to the mortality.

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* *See* Bright and Addison's Practice of Physic, under this term; also Dr. Todd on Gout and Rheumatism.

"About one-ninth of the people are returned as dying of old age.

"There has been an evident decrease in the violent deaths during the year 1841; still, the number of persons who died violent deaths remained high, amounting to 11,100. The violent deaths will be analysed in a separate article, to appear in an Appendix to the next Report.

"The causes of death not distinguished in the tables, and some singular or remarkable cases, will be found in the notes, p. 375."

As death by childbirth is always a subject of the most lively sympathy, we will here present the most important results determined upon this point.

"3007 mothers died in childbirth in the year 1841. On an average, 8 died from childbirth every day of the year. 11,722 English women died in childbirth (including miscarriages and abortions) in four years; namely, 2811 in 1838, 2915 in 1839, 2989 in 1840, and 3007 in 1841. The mortality was 1 death to 171 births registered.

"In the four years, the returns under this head were less specific than could be desired.

"The annexed return of some cases occurring in the metropolis will, however, give a general idea of the nature of the accidents that render childbirth dangerous.

"Of 196 cases noted, 55 were returned simply 'childbirth;' 7 'miscarriages,' two of the latter attended by hemorrhage; 27 'flooding,' or loss of blood; 6 rupture of the uterus; 63 puerperal fever, peritonitis, or inflammation of the womb; 1 erysipelas; 1 inflammation of brain, 1 of heart, 4 of lungs; 3 phlegmasia dolens; 1 serous effusion after childbirth; 14 exhaustion, collapse, syncope, debility; 2 convulsions; 5 puerperal mania; 1 difficult labor; 1 exhaustion from a fibrous tumor in the uterus; 1 tubercles in the womb after childbirth; 1 ovarian dropsy after premature parturition; 1 dropsy and childbirth.

"Original malformation renders labor in some cases difficult and dangerous; at other times pregnancy occurs in women afflicted with fatal maladies (fibrous tumor, tubercles, ovarian dropsy); and, as childbearing does not exempt the frame from disease, all the deaths which occur in that state, spontaneously or from accident, must not be ascribed to it in any other way than as a complication. Small-pox is almost invariably fatal in the puerperal state;* and if inflammations of the brain, heart, and lungs occur, their danger must be increased; but it is probable that the above cases were some of the many complications of 'puerperal fever.'

"The terms—puerperal fever, puerperal peritonitis, uterine phlebitis, inflammation of the uterus—are applied by writers, without any great discrimination, to modifications of one affection, which it was proposed, in the nosology, to designate 'metria,' the uterus and its appendages being the source and principal seat of the malady; which has, however, no more in common with pure inflammations, like peritonitis, than have the changes of the glands of Peyer in typhus. Metria is contagious; but this fatal disease, with phlegmasia dolens and puerperal mania, will probably be regulated, to a certain extent, by the same causes as diseases of the first class. Another large section of the mortality is from the loss of blood, rupture of the uterus, or mechanical causes, and must very much depend upon the skill and care of the persons in attendance."

Before referring to the deaths caused every year by the contagion of puerperal fever, communicated by the medical attendants and the nurses, we will here introduce the interesting subject of having in England educated nurses and midwives, the latter being of the character of the French *sage-femme*. This is a suggestion of the industrious and accomplished

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* Dr. Gregory.

William Farr, Esq., who, it may be said, bears upon his shoulders, like another Atlas, the immense burden of making perhaps all the calculations and deductions belonging to these Reports—an algebraic labor that we should have supposed would have frightened any man, save a German mathematician.

"Midwifery," he says, "is as well understood in England, and the medical practice is certainly as sound, as little encumbered with obsolete prejudices, as well adapted to aid and correct the efforts of nature, as the other parts of surgery; but errors in practice are sometimes committed; and though excellent nurses, considering their education, are sometimes met with, medical precepts are too often set at naught by the nurses and old women in attendance, who have peculiar views of their own, which they lose no opportunity of announcing and carrying into effect, with the best intentions in the world, but the worst consequences. A large proportion of the 500,000 English women who lie-in every year, and have any attendance at all, are attended by midwives, who, from one cause or other, probably delicacy of the national manners in points of this kind, receive no regular preliminary instruction in anatomy and other matters, some knowledge of which a glance at the causes of death in childbirth will show is indispensable in many emergencies. It is true that a medical man can be called in where the danger is imminent; but, to discover danger, a knowledge of its sources is required; and those who have come in contact with midwives, or 'monthly nurses,' are well aware that ignorance does not diminish their self-confidence. In France, the 'sages-femmes' go through a regular course of instruction, theoretical and practical. Madame Boivin and others have greatly distinguished themselves there by their writings, and contributed not a little to the progress of their art. Mr. Hoffman states that the Prussian government supported, in each of the eight provinces, schools of midwifery, which in 1837 had furnished the country with 11,155 midwives, examined and passed by the Medical Boards.*

"It would be folly—with the undoubted differences in our manners and institutions—to argue that the French or Prussian system should be introduced into this country; practically they are perhaps not more efficient than our own; but it is very well worth while, in the first place, to inquire whether our English system does not admit of essential improvements, and in the second, what steps should be taken for carrying these improvements into effect.

"No one who has reflected upon the subject, and certainly no one who has a practical acquaintance with it, will contend that the annual deaths of 3000 women in childbirth, and of 13,350 boys, and 9740 girls in the first month after delivery, or the sufferings and deformity of many who escape with life, are natural and inevitable. Admit that the lives of a thousand—of five hundred—or of one hundred of these mothers might be saved—and that many more might be rescued from injuries and pains which disable, or never leave them, and assuredly no apathy, no false sentiments of delicacy, will prevent those who have the public health at heart from giving the subject the most attentive consideration.

"If schools for the education of nurses and midwives were established in the metropolis, and the large towns, under medical supervision, and some distinction were conferred upon those who proved attentive, kind, and skilful, such schools would probably be frequented. A highly useful profession would be thrown open to women, who have now so few fields of profitable employment; and the utility to the community of a recognized body of respectable women, educated as nurses, acquainted with the plain doctrines laid down in the popular medical works on health, and possessing as much knowledge of midwifery as the French *sage-femme*, would be incalculable. Some of these schools might be connected with the present hospitals and lying-in institutions; others might be founded for the delivery of easy popular lectures, and for providing the wives of the indigent with gratuitous attendance, or attendance slightly remunerated—to be supplied by the young nurses, superintended by those practically versed in their art, and medical officers.

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* Die Bevölkerung des Preussischen Staats in 1839.

"In a year, or two years, intelligent women would acquire, at such an institution, sufficient information and skill to be useful nurses. It is questionable whether they should be taught the properties of drugs. I do not think that they should be allowed to dabble in such dangerous articles. If they were taught in what circumstances to give a few drops of laudanum after delivery, and when to administer castor-oil or tincture of rhubarb themselves, or in what way to apply the remedies prescribed by physicians or surgeons, it would be enough. To attempt more would be to establish a new class of half-educated practitioners, like the druggists, and would infallibly lead to mischief, without any chance or prospect of countervailing good.

"After consulting on the subject several medical men in extensive practice, I may state that the want of good, educated, trustworthy nurses is felt in the highest circles, as well as in the middle ranks of society. The nurse is always present with the patient, the medical man only occasionally; to the nurse is entrusted the administration of remedies, the ventilation of the apartment, the warming, the diet, and a thousand nameless offices on which health and life depend. How can a nurse without guiding principles—without sound convictions engrafted on her mind by education—swayed by her feelings and traditional prejudices, be expected to discharge her difficult duty? The nurses of hospitals acquire a practical knowledge of their art, and get employment out of doors; but, as a general rule, hospital nurses are under-paid, and the consequence is, that they are often a very inferior class of women, who can get no other engagement. There are exceptions, but as our religion has not yet called into existence a class like the *sœurs de charité*, it is vain to expect nurses to supply their places, unless the wages (they should be salaries) be sufficient to supply educated persons with a comfortable subsistence.*

"An institution for the education of nurses would probably succeed better than many of the medical schools; but they would be nurses for the middle and higher classes; the small outlay of capital which an education of the kind would involve, must tend very much to preclude the admission of midwives for the artisan's wife. To provide these, the professional education should be at first gratuitous; or a few professorships should be endowed, and the fees be made low for all the instruction in the doctrines of health, and in the principles and practice of midwifery, including nursing in sickness of every kind. The appointment of parish nurses and midwives under the medical officer could alone provide for paupers; but the laborer or artisan would find the attendance of the nurses, who had availed themselves of the moderate education adverted to above, of great use in the sickness of his family, and really less costly than the spirit-drinking nurses now met with, who sometimes, it is to be feared, demoralize his wife, and poison his children.

"Several collateral advantages would arise from the institution and support of a class of educated nurses distributed all over the kingdom.

"New habits and practices are much slower in their progress than opinions and knowledge; they require to be taught 'in season and out of season'—by precept and example. Our present knowledge of the laws of health—of the causes of death, and consequently of the means of preserving health—is imperfect, no doubt, but it is very far in advance of what was possessed in the last century. The popular works of Dr. Southwood Smith, Dr. Andrew Combe, Mr. Pye Chavasse, Dr. Hodgkin, and others, place within the reach of the public important doctrines which were unknown to Sydenham. Such popular medical literature has an extensive sale; but it would be a mistake to suppose that the mass of the population, rich or poor, is acquainted with the best established sanatory principles, and the reasons on which those principles rest—is therefore much influenced by them, or is willing to take the trouble and incur the expense requisite for procuring what science and calculation prove are necessaries of life. The practice of no small part of the population in sanatory matters, so far as it can be referred to rules, and is regulated by doctrines, is the practice inculcated by former generations of medical men; and is only broken in upon by a few rays of new light. The well-informed part of the community owe their enlightenment principally to the teaching of their medical attendants, who lose no apt opportunity of laying down rules of health, and enforcing them, by drawing the attention of families to the sad and often striking consequences of neglect. This is the more praiseworthy in the members of the medical profession, considered as individuals, inasmuch as the colleges do not prescribe, nor the schools provide, as in other countries, any systematic courses of instruction in hygiology (the *hygiène* of the French). The art of preserving health is not yet taught in the medical schools of England; and it is only just to add that it is not paid for in any shape by the public.

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* There is a small society of "nursing sisters" (not midwives), of whom report speaks favorably.

"It is, nevertheless, to the medical profession chiefly, that we look for the extension of the sound doctrines of hygiology, and to their due influence in the homes and daily life of families. But would not the medical man be as much assisted by instructed, as his proposals are now thwarted by ignorant, nurses? Would not the constant reasoning, the stories, the advice, of an amiable woman —comparatively well-instructed in her *profession*—go further than anything else to impart practical principles to the mothers of families? And who does not know that the comfort and cleanliness of the poor man's hearth, the lightsomeness and health of his room, the vigor and training of his children, are the work almost entirely of the wife? If the educated nurses possessed the sound common sense and good nature which a body of English women scarcely ever wants, and could be induced to read, so as to keep up their knowledge, and to apply practically the improvements which every day brings to light, they would be a connecting link between the highest class of intelligences engaged in medical research, and the humblest members of the community to whose advantage those researches invariably tend. The English midwife would then be 'worthy of her reward.'"*

Childbirth fatal by Contagion is next considered; and here a deserved reference is made to the excellent paper of our countryman, Dr. Oliver W. Holmes, of Boston, on the *contagiousness of puerperal fever*. As this is a subject of the highest interest, we will endeavor to make our *résumé* as complete as possible, even at the risk of being thought prolix. Besides, it will be again adverted to in our notice of Nunnelry's treatise on Erysipelas.

"The cases which cause most distress to medical practitioners, and most alloy the pleasure which they must feel, upon the whole, in the ministration of medical relief to mankind, are undoubtedly those deplorable and rare instances in which they communicate contagious diseases to their patients. I intend to make a few observations upon this point, in connection with the prevention of 'puerperal fever,' which is the most common cause of death in childbed. Of its communication by contagion many instances are on record, and some cases of very painful interest have been related to me by surgeons who have been so unfortunate as to have met with it in practice. But the most useful facts on the subject, in connection with private practice, have been condensed in the annexed paper, which is in the highest degree creditable not only to the candor of Mr. Storrs, of Doncaster, by whom it was drawn up, but to the medical profession generally, who are in a certain sense interested in suppressing such facts, and in disputing the evidence of contagion. The experience of lying-in hospitals confirms Mr. Storrs' conclusions; but the extent to which these institutions increase the danger of childbirth is now well known.

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* Verstegan on the derivation of *midwife*, has "*medewyf*, a woman of mede, merit, deserving recompense." See the word in Richardson's Dictionary. The Anglo-Saxon midwife is coeval with the "leech."

"I wish to call particular attention to the following judicious suggestions of Mr. Storrs, which should never be lost sight of by medical practitioners, midwives, or nurses:—

"'I think it desirable for midwifery practitioners to avoid attending labors in the same dress in which they attend their ordinary patients, especially the coat, as this garment must be the one most likely to be the means of conveying fomites; and at any suspicious period, when typhus or erysipelas is prevailing, to carry out the same carefulness even in the after attendance on labor cases.

"'I should also, after a post-mortem of any kind, or after an operation upon any case of erysipelas, or of typhus, recommend the most careful ablutions of the hands, and for the surgeon to avoid attendance on a labor in any part of the dress in which such operations have been performed, not forgetting the gloves, as the hand and arm are the chief instruments of contact. Where, however, the disease has been unfortunately once set up in a practice, *an absence from home for a fortnight or three weeks, a total change of raiment, the most careful ablutions, and a perfect avoidance of every case likely to have been the source of animal poison, should alike be adopted by the practitioner.*'"*

"* Observations on Puerperal Fever; containing a series of evidence respecting its Origin, Causes, and Mode of Propagation. By Robert Storrs, Esq., Surgeon, Doncaster.

"The subject of the contagiousness of puerperal fever has been taken up by our medical brethren in America, in a paper by Dr. O. W. Holmes, published in the 'New England Quarterly Journal of Medicine and Surgery,' for April, 1843, and copied into the July number of the 'American Journal of Medical Sciences,' wherein he brings forward a strong array of evidence, which goes far in support of the opinions and in corroboration of the views I advanced in the Provincial Journal for April, 1842, when I gave a history of puerperal fever as it occurred in my practice in the early part of the previous year. I am induced, therefore, to send you a few more remarks on that subject, merely offering, as an apology, that it has absorbed a considerable share of my thoughts and attention since the occurrence of the unhappy cases in question, and that it will continue to excite a lively and painful interest in my mind as long as it retains its powers.

"Dr. Holmes's paper proves, I think indisputably, the contagiousness of the disease; that it occurs generally only in the practice of one individual in a place; and that it is intimately connected with erysipelas: but it does not, I think, go far enough, in merely considering it to be propagated by medical men and nurses from one puerperal patient to another; whereas the disease, in my belief, is quite as frequently carried by the medical attendant to each fresh labor patient he is called upon to attend, from some original infectious case, whether of gangrenous erysipelas, of typhus fever, or of whatever animal poison besides, may hereafter be found to produce it. That I took it from a case of gangrenous erysipelas with subsequent abscess, to every case which occurred to me, I have no doubt; the precautions I made use of being in reference to the contagion of the fever itself, rather than to the particular case, which I found too late to be the sole cause of it.

"I shall now, from circumstances occurring to friends and neighbors, from cases already published which have come to my knowledge, and from my own personal experience, endeavor to prove, as concisely as the importance of the subject will admit of it, the four following propositions, viz.:—

"1. The contagiousness of puerperal fever.

"2. The origin of puerperal fever from an animal poison, chiefly erysipelas and its consequences, but sometimes typhus fever.

"3. The power of puerperal fever to produce indiscriminately, in the persons of the attendants and nurses, and in the families of the affected parties, erysipelas, typhus, and a fever sometimes in the male, strongly resembling the puerperal.

"4. That in general the most prompt, judicious, or careful treatment, is of no avail.

"I shall begin this attempt first by an array of evidence yet unpublished, chiefly in the order in which I have received it from those friends who have favored me with the

The rest of this highly important paper, it will be necessary, in consequence of its length, to condense as much as will be practicable, keeping in view its perfect comprehension.

Mr. Sleight, of Hull, gives three cases of puerperal peritonitis. The

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result of their unfortunate experience, and shall support it by what has been, in some form or other, already before the public.

"To obtain all the information in my power from authentic sources, I addressed the following questions to Mr. Reedal, of Sheffield; Messrs. Hardey and Sleight, of Hull; and to Mr. James Allen, of York; all men of local eminence, who have themselves seen the disease in their own practice.

"1. What is your opinion of the contagiousness of puerperal fever?

"2. Do you consider it to arise from erysipelas, or from any other animal poison?

"3. Do you consider it to have been propagated from one puerperal woman to another, or from a non-puerperal case which first produced it?

"4. Had you any post-mortem examination? If so, what appearances were observed—especially was there pus in the uterine veins?

"5. What treatment did you pursue, and what did you find of most avail?

"6. Were any of the friends or attendants of the parties immediately afterwards seized with disease, and of what kind?

"7. What other practitioners in your town had cases of a similar nature at the time?

"8. Will you state the date of the commencement of the first and last cases of the disease, and how many cases of it occurred to you in that period?

"As I consider myself indebted to Mr. Reedal, of Sheffield, for the most decided information as to the origin of the disease from erysipelas, I will begin with his communication; and as his letter is so full of facts, and so concise, I shall make no apology for transcribing the whole of it. It is as follows:—

"'*Sheffield, Nov.* 15, 1843.

"'DEAR SIR,—In reply to your note of the 19th of October, respecting those cases of puerperal fever which occurred in my practice, I beg leave to subjoin the following answers to your queries:—I may premise that at the time of my attendance on those females who were subsequently attacked, I had under my care a young man laboring under sloughing bubo, combined with erysipelatous inflammation of the scrotum and nates, of a malignant character, which required dressing daily, and which ultimately proved fatal. It may be somewhat corroborative of the supposed dependence of this form of puerperal fever on an animal poison generated by this sore, and propagated by contact, that the sister of the young man, who waited upon him, was seized with erysipelas of the head and face, of a very low, typhoid nature, which terminated fatally in a few days.

"'1. In answer to your first question, it is my decided opinion that the cases occurring in my practice were from contagion.

"'It would be unnecessary in me to repeat my implicit belief in the contagiousness of this disease, and its connection with this case of erysipelas; but if further confirmation were needed, I might adduce the circumstance, that immediately antecedent to my taking the charge of the above case of erysipelas, I had met with no cases of puerperal fever, and that upon discontinuing my attendance upon the young man (which I immediately did upon the belief that I was the medium of conveying infection from him to the puerperal cases), I had no recurrence of puerperal fever.

"'3. In reply to this question I may give it as my opinion, that in all my cases the disease had one common origin, viz., the bubo, and was not communicated from case to case.

"'4. I had a post-mortem examination of one of the cases, but am sorry that in consequence of not having the notes by me, I cannot answer this question so satisfactorily as I could have wished. The abdomen was tympanitic; the uterus flaccid, with considerable softening; its lining membrane injected. There was a large quantity of serum in the peritoneum, with flocculent matter floating in it. We made an examination to ascertain whether there was any pus in the veins, but we were unable to discover any.

"'5. I have no ground for faith in any particular treatment, as all seemed alike unavailing. In the treatment of the above cases, assisted by Drs. Thompson and Favell, various forms were employed. In the two first cases we employed bleeding, both general and local, which we thought prejudicial, by depressing the powers of the patient. Mercurials were employed without any good effect. Turpentine was first patient was attacked on the day after delivery, and died on the following day. Her nurse had been attending a lady who had died of the same disease. The other two cases occurred within a week or ten days of each other. "I was called," he says, "to the first case whilst visiting a patient suffering from erysipelas; I immediately left him, and went to attend my female patient, who had a quick natural labor; she was attacked with puerperal peritonitis within twenty-four hours of her delivery, and died eighteen hours after the commencement of the attack. In the second case, the patient was attacked the day following her delivery, and died within twenty-four hours."

Mr. Hardey, of Hull, in the course of one month, 1838, had twenty cases of puerperal peritonitis, of which seven proved fatal. He is impressed with the conviction that the disease was some way connected with his attendance on a case of a large sloughing abscess of the groin, and also one, at the same time, of erysipelatous abscess of the mamma. As large numbers of sheep, hogs, and cattle died, at the same period, of parturient disease in that and the neighboring counties, there was evidently a peculiar atmospheric constitution.

The following history of certain cases, showing most clearly and positively the origin of the disease from gangrene, is stated.

> "Three surgeons, residing in the same town, attended the post-mortem examination of a patient who had died from gangrene after an operation for strangulated hernia, and were all of them employed in handling the diseased parts. One of them was called from the inspection to a case of labor, which terminated in fatal puerperal fever; he had others in rapid succesion. The other two surgeons had also fatal cases of puerperal fever within a day or two after the same inspection.
>
> "On casually meeting, they mentioned their misfortunes to each other, and

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given by the mouth and rectum, and applied externally to some of the latter cases; this at the time I thought to be most beneficial.

"'6. I have known of none of the attendants on these puerperal patients being attacked by any disorder which might be supposed to have arisen from these cases.

"'7. No other medical practitioner had any case of a similar nature at that time.

"'8. The first case commenced on the 27th of October, 1838, and the last on the 3d of November, and during that period five females were seized, and all died. During this week I attended two other females; one went on well without any unfavorable symptom; this patient I was called to about four hours after attending a lady who was the first fatal case; the other was attacked with inflammation of the mucous membrane of the bowels, but recovered in a few days. In the latter case, twelve or fourteen hours had intervened between my visit to the young man and my attendance upon this female; but in all those which proved fatal I went nearly direct from dressing the sore.

"'I should also wish to state that at the time those cases occurred to me, Mr. Parker, then my pupil, but now resident in Sheffield, attended many midwifery cases, and all recovered well. He never visited the erysipelatous patient.

"'The above cases were not confined to one locality, but were living in different parts of the town, showing that the disease did not arise from any local cause. As I have previously stated, I had very strong suspicion, after the first case or two, that I was conveying the infection, but could not discover how, until the sister was seized. This was the most malignant case of erysipelas I ever witnessed. I then began to think whether I was not conveying the poison from this source. I am sorry that the above cases were not reported at the time they occurred. The reason why they were not, arose from what I said concerning the notes in my former letter. You are quite at liberty to make whatever use of the above remarks you think proper.

"'I am, dear Sir, yours truly,
"'G. Reedal.

"'*To Robert Storrs, Esq.*'"

were thus convinced of the origin of the disease. They all abandoned practice for a short period, and had no more of it."

Numerous other cases are mentioned, all going to establish the conclusion, that puerperal fever may be communicated by medical practitioners when in attendance on such diseases as gangrene, typhoid erysipelas, malignant typhus, and after making a post-mortem examination of any of these affections; but, at the same time, it would seem, fortunately, to be just as clearly proved that, as this disease in this malignant form arises from an animal poison, and that that animal poison is the product of few other diseases, the direful malady may be prevented from spreading, by simply abstaining, when attending such patients, from attending, without proper precautions, all obstetrical cases.

In conclusion, the writer remarks:

"I think, after a dispassionate examination of the cases and histories recorded above, it will be allowed that the propositions I have stated at the commencement of this paper have been fully made out. The contagiousness of the disease is chiefly proven by its adhering to one practitioner in a place alone. He will, for instance, have several cases of it in succession; and until he is fully made aware of being himself the vehicle of the poison which produces it, he cannot rid himself from it. When, however, he is fully convinced of its contagiousness, he ceases his attendance on obstetric practice for a time, uses complete and frequent ablutions, perhaps goes from home, has a complete change of clothes, and on his return, or on the resumption of his practice, has no more of it. Sometimes, though at an early period, fully aware of the contagion he is spreading, he repeatedly changes his clothes, and uses every precaution that extreme anxiety can suggest; still the disease clings to him, even after a journey, and abstaining from practice, until he becomes aware that the subtle poison arises from a non-puerperal case which, on declining to attend, he at once finds to have been the cause of all the mischief. Such was my case; and though I personally attended in all about twenty cases, which did well during the lengthened period of the continuance of the disease with me, I am convinced that they only escaped destruction in consequence of my anxious efforts to rid myself of the disease by the precautionary measures above mentioned, but which in some instances were unfortunately insufficient, because I was still attending the case from which the poison sprung. Whatever information, therefore, throws a light upon the origin of the disease must be valuable in teaching us how to prevent it, whether that origin be erysipelas, gangrene, or typhus.

"How much inferior in importance must a knowledge of the treatment or post-mortem appearances of such a disease be, when its rapidity and severity allow of neither time nor means with which to combat it, and where the exceptions to the rule are the cured, not the deaths, and where recovery, where it does take place, appears to result from some fortunate circumstance, which has mitigated the intensity of the poison, or from some unusual degree of insusceptibility on the part of the patient rather than from the skill and promptitude of the practitioner. In those instances in its history where the disease has been so frequently brought to a favorable termination, as in Dr. Armstrong's cases, I should attribute the success to the less degree of intensity of the poison which had set it up, or (if the irruption was of long continuance) to its being partially worn out, rather than entirely to the skill of the medical attendant; because, though the form of treatment adopted by that eminent man, by Mackintosh, and others, has been repeatedly followed up, it has very seldom been found available in the more destructive forms which have been recorded in this paper. The most eminent men of the present day who have witnessed it—as Drs. Locock, Ferguson, R. Lee, &c.—are not less hopeless of success than was Dr. William Hunter almost a century ago.

"I have said little, therefore, on the subject of pus in the veins (at this time a favorite theory), as it appears to be sometimes present, though more frequently not so, my efforts in doing good being, I think with reason, directed to prevention alone.

"As it is well to be always guarded against such a misfortune, I think it desirable for midwifery practitioners to avoid attending labors in the same dress in which they attend their ordinary patients, especially the coat, as this garment must be the one most likely to be the means of conveying fomites; and at any suspicious period, when typhus or erysipelas are prevailing, to carry out the same carefulness even in the after attendance on labor cases.

"I should also, after a post-mortem of any kind, or after an operation upon any case of erysipelas, or of typhus, recommend the most careful ablutions of the hands, and for the surgeon to avoid attendance on a labor in any part of the dress in which such operations have been performed, not forgetting the gloves, as the hand and arm are the chief instruments of contact. Where, however, the disease has been unfortunately once set up in a practice, *an absence from home for a fortnight or three weeks, a total change of raiment, the most careful ablutions, and a perfect avoidance of every case likely to have been the source of animal poison, should alike be adopted by the practitioner.*"

Causes of the high Mortality in Town Districts.—The diseases of the towns and the open country present remarkable differences, as appears by the following very interesting general deductions :

"The investigation of the fatality of diseases in towns (in the Appendix to the First Report) necessarily left some uncertainty in the results, as it was founded upon the returns of half a year, and the population could only be estimated on an assumed rate of increase. In the four years that have since elapsed the census has been taken, and a mass of facts has been accumulated which furnish the means of determining the influence of the density of population on the causes of death. It will be convenient, for the sake of comparison with the Appendix to the First Report, to take the same districts, and to pursue the same order.

"The population, in 1841, of the districts in the counties of Essex, Norfolk (except Norwich), Suffolk, Sussex, Gloucestershire (except Bristol and Clifton), Herefordshire, and Westmoreland, an area of about 9352 square miles, was 1,700,484. The deaths registered in the four years (1838-41) were 132,116.

"The population of Birmingham, Aston, Bristol, Clifton, Bath, Manchester, Salford, Liverpool, West Derby, Cambridge, Carlisle, Derby, Dudley, Exeter, Leeds, Leicester, Maidstone, Newcastle-on-Tyne, Sunderland, Northampton, Nottingham, Sheffield, Stoke-on-Trent, Wolstanton, and Wolverhampton, standing on 666 square miles, was 1,883,693 ; and the deaths registered in four years were 205,966.

"The population of the town was greater than that of the country districts by 183,209 ; as a correction for this excess strike off 20,000 from the deaths in the former districts, and the following is the result :—

	Country Districts.	Town Districts.
Deaths in the same time out of the same population,	132,116	185,966

"The excess of deaths in the different circumstances was 53,850.

"For another instance, the metropolis inhabited, in 1841, by 1,875,493 persons, may be compared with the south-western division, comprising, in Wiltshire, Dorsetshire, Devonshire, Cornwall, Somersetshire, a population of 1,740,017. The deaths were 189,927 in the metropolis, 130,298 in the south-western division ; and after the same kind of correction as before, the result is of the same character.

	South-Western Districts.	Metropolitan Districts.
Deaths in the same time (4 years) out of the same population, ...	130,298	176,210

"The excess of deaths in the metropolis was 45,912. Taking the same population, a greater number died in three years in the metropolitan districts than died in four years in the south-western districts. If the mortality were reduced to the same rate, there would be from 10,000 to 12,000 less funerals in the metropolis every year.

"By combining the two series of observations the following aggregate numbers are obtained :—

	Country Districts.	Town Districts.
Deaths in the same time (4 years) out of the same population, ...	262,414	362,176
Difference, . .	99,762	

"The deaths occurred in the four years, 1838-41, and the population increased 2 per cent. (·01967) annually in the town, ·8 per cent. (·00847) in the country districts, during the 10 years, 1831-41. Upon dividing the annual deaths by the population (calculated) for January 1, 1840, the annual mortality was found to be as follows :—

Living.	Annual Deaths.	
	Country Districts.	Town Districts.
1,000,000	19,300	27,073
Population to a square mile	199	5,108

"One in 52 died in the country, one in 37 in the town districts. The mortality in the dense districts was to that in the less dense districts as 140 to 100.

"The Table (pp. 403-5) has been constructed to show the causes of death in the country and town districts; the causes of death returned in four years for the 25 town districts, the metropolis, the south-western counties, the eastern and other agricultural counties, are stated in separate columns (1, 2, 3, 4); the aggregate returns are included in columns 5, 6; and the annual mortalities by each cause to a million living, are contrasted in the columns 7, 8. It will be recollected that the population of the metropolis was nearly equal to the population of the 25 town districts; while the population of the south-western division was 1-42d part more than the population of the other counties.

"The deaths by diseases of the zymotic class were 86,835 in towns, 45,114 in the counties; and the annual mortality was 6013 and 3422 in a *million* living. By *small-pox* the mortality was twice as great in the town as in the country districts (1045 and 507); 8348 persons died by this disease in the '25 towns' (so they may be called for shortness), and 6739 in the metropolis, 3844 in the south-western division, 2834 in the other counties. The mortality (in a *million*) by *measles* was 914 in the town districts, 364 in the country; by scarlatina (including putrid sore throat) 988 and 478; by hooping-cough 829 and 415. Thus

8465 (children chiefly) died of *measles* in the '25 towns,' 2774 in the south-western division, 4729 in the metropolis, and 2021 in the 'eastern, &c., counties;' 7627 died of scarlatina in the '25 towns,' and 2499 in the south-western division, 6640 in the metropolis, and 3801 in the eastern and other counties. *Hooping-cough* was fatal to 11,975 in the metropolis and the '25 towns,' to 5468 in the south-western division and the other counties. *Croup* was much more fatal in the '25 towns' than in the metropolis, while it was the reverse with 'thrush;' and neither of these maladies was much more fatal in the town than in the country districts. The mortality of diarrhœa, dysentery, and cholera together, was 385 in the towns, 196 in the country. Typhus (comprising the cases returned as *fever*) was fatal to 18,111 in the town, 13,159 in the country districts; the mortality (to a *million* living is understood throughout) was 1254 and 998. The mortality from erysipelas was 133 and 53; from syphilis (as returned) 18 and 10 in a million. *Twenty-eight* died of *hydrophobia* in the towns, 10 in the country districts.

"The diseases of 'uncertain or variable seat' were nearly equally fatal in the two classes of districts. More deaths were referred to scrofula and cancer in the country than in the town districts; 13,194 persons died of dropsies in the town, 12,040 in the country districts.

"The mortality by cephalitis and hydrocephalus together was 1143 in the town, 445 (to a *million*) in the country districts. Hydrocephalus destroyed 4409 children in the country, 12,656 in the town districts. The mortality by convulsions was 852 in the country, 2000 (to a *million*) in towns, where tetanus and chorea were also most fatal. The mortality by apoplexy and paralysis, as well as the 'sudden deaths,' in which inquests were held, was not much greater in towns than in the country. By consumption the mortality was 4463 (in a *million*) in the town, 3660 in the country districts; or 64,449 persons died by this disease in the town, 48,252 in the country districts. The mortality by consumption was raised only 22 per cent. in the town districts; but in this destructive disease the increase produced 16,197 deaths, while the *total* deaths from typhus in towns was but 18,111, and the excess over the deaths from that disease in the country 4952. Sufficient attention has perhaps not been paid to the great excess in the mortality of consumption, caused by the insalubrity of towns. The deaths by bronchitis, pneumonia, asthma, and other diseases of the chest, were raised from 21,966 in the country to 50,609 in the town districts; the mortality was 1667 and 3504 in a million.

"The annual mortality by diseases of the *digestive organs* was 1972 (to a *million*) in the town, 1042 in the country districts; but of this mortality 616 and 120 were referred to *teething*, a disproportion which, vague as the term is, serves to indicate the greater irritation and danger of dentition in towns. Enteritis and peritonitis were nearly twice as fatal in the town as in the country districts. *Tabes mesenterica* was, like consumption, increased only about one-fifth in the town districts. By liver disease and hepatitis the mortality was 171 in the country, 233 in the town districts; by jaundice 55 and 57. The mortality by diseases of the urinary organs was 101 in the country, 117 in the town districts. The mortality by diabetes was the same (13); by stone and gravel 12 in the country, 16 in the towns. The excess was perhaps caused by the resort of patients to the hospitals in towns.

"Of childbirth, 3195 women died in the town, 1806 in the country districts; the excess in towns was more than 1000 lives; the mortality was 221 and 137.

"The mortality by rheumatism was greater in the towns than in the country (72 and 48); so was the mortality by diseases of the joints.

"The mortality ascribed to intemperance was 19 in the town, 7 in the country districts; to starvation, 15 in the town, 8 in the country districts.

"I have pointed out only some of the more important results in the table, which should be carefully studied in all its details.

"The essential character by which we have been guided, in classifying districts under the head of 'town' or 'country,' is the density of the population, which can be expressed numerically by the 'population to a given area,' or the 'area to each person.' Whether the population possesses any privileges, is incorporated, or is under any peculiar jurisdiction; whether the place is technically a 'city,' or a 'town,' or neither, has not been considered; if it has a considerable population, living in close proximity, it is here considered a 'town' district. The registration districts are generally single parishes, or parishes united for the relief of the poor, and were formed by the Poor Law Commissioners with this object exclusively in view; hence the 25 town districts include, with towns, entire parishes, which have all the character of country districts, and the municipal boundaries themselves frequently take in open suburbs and spaces. The width of the streets, and the relative area covered with dwellings, also differ in the same city.

"Upon the other hand, the 'country' districts in the table comprise all the towns in Wiltshire, Devonshire, Dorsetshire, Cornwall, Somersetshire, Norfolk (except Norwich), Essex, Suffolk, Sussex, Gloucestershire (except Bristol and Clifton), Herefordshire and Westmoreland. The terms 'town' and 'country' districts must consequently be understood in this inquiry to designate prevailing, and not exclusive, characters. The comparison is instituted between denser and less dense, not between the densest and most scattered populations in the kingdom. Assuming that the mortality is increased as the population grows denser, the mortality of the class of 'town districts' is less, that of 'country districts' greater, than it would be if the population were exclusively of the kind by which the class is characterized. The effect of the agents is understated by which the disease and mortality of towns are caused. It is as if the specific gravities of two masses of metal were compared, the one containing eight, the other two parts in ten of gold; the ratio of the specific gravities of the two masses would be less than the ratio of the specific gravities of the pure metals; but a comparison would prove that gold was by far the heaviest.

"Without any difficult analysis this broad irrecusable result is then obtained from an immense number of facts, that certain diseases are much more fatal, and that the mortality is much greater, in towns than in the open country."

The next point of inquiry will be the *causes of the diseases which, according to the registration, are so much more fatal in the towns than in the open country.* "To distinguish these causes," says Mr. Farr, "and to determine precisely the share which they have, single or combined, in the production of disease, an elaborate series of observations and experiments must be instituted, in which the resources of chemistry, natural philosophy, medicine, and the mathematical sciences, will be called into requisition." It will be seen, however, that the diseases of towns can be clearly traced to groups of causes, and that they may be partially analyzed. As we feel a very high degree of interest in this subject, and as we judge our readers by the standard of our own taste and judgment, we are just now disposed to spin a pretty long yarn, in the way of extracts. As the following extended quotation consists of reasonings and deductions that are, in a great measure, new to the great majority of our readers, and as it does not admit of condensation to any material extent, we have concluded to present a full exposition of the subject:

"Experience has shown that there are certain things which may be called necessaries of life; they are the produce of labor, and possess a variable value; a portion therefore of every population, savage or civilized, cannot procure them, and is subject to privation in different degrees. These necessaries are—(1.) Water, (beer, wine, tea, coffee); (2.) Food, (meat, bread, fruit, vegetables); (3.) Physic; (4.) Clothing; (5.) Firing, (light); (6.) Lodging; (7.) Cleansing, (washing, sewerage.) The relative value of these articles is represented by their price, which varies at different times and places, but the price does not express the relative facility of procuring them, that is, of procuring, in the wide sense of the word, subsistence. This facility is expressed by the ratio of the earnings of a family to the cost of its subsistence; for if the seven necessaries of life cost 100*l.* in one place and 120*l.* in another, and the earnings are also 100*l.* and 120*l.* respectively, each family will have a competency. But misery, want, competency, comforts, and the *aisance* of the French, significant as they are, cannot be expressed numerically; they may be understood differently; in a sanatory inquiry, we may therefore substitute for them the value of this ratio, which can be determined and expressed in terms to which all would attach the same signification. Let it be assumed, for a moment, that a sufficient supply of the necessaries of life can be procured by a family for 100*l.* a-year, what will be the effect of reducing the earnings of the family to 50*l.* a-year? We know, by observation, that it does not reduce the duration of life in that ratio; and the reason is, that by the substitution of a coarser and cheaper food, hunger can be appeased, and the body supplied with sufficient nutritive matter, or matter that may serve as a substitute for those more grateful combinations, which the appetites and experience seem to point out as the best food for mankind. The animal food, in the case supposed, would be replaced by bread or potatoes; the beer, tea, and coffee would be weaker; in illness, medical advice would be less frequently obtained; the clothing would be coarser and scantier; the fire smaller; the lodging less spacious; cleanliness would be less attended to. I take here the average results, which would vary in different circumstances with the desires of the people and the products of the place. A reduction from abundance to a rude subsistence would probably be attended by a ruduction in the mean duration of life—but to a comparatively small extent. A low standard might, however, be fixed upon, any fall below which would be accompanied by a certain reduction of the mean life of the people. The ratio would probably not be simple; but, to borrow an expression from the mathematics, the one fact would be a *function* of the other: the possibility of the equation may notwithstanding be conceived under this simple form—

$$\frac{\textit{income}}{\textit{drink} + \textit{food} + \textit{physic} + \textit{clothing} + \textit{firing} + \textit{lodging} + \textit{cleansing}} = r\,;$$

and putting N for income (in money), C for the aggregate cost (in money) of the seven necessaries of life, and L for the mean physiological duration of life, the equation is $\frac{N}{C} L = L'$; L′ being the mean life in the particular circumstances. Assume the cost of a full supply of subsistence for a laborer in the country to be 50*l.* a-year, that the income of his family is 50*l.* and that he is in such favorable circumstances altogether that he attains the natural mean term of life, the equation will be $\frac{50}{50} L = L$. But let the income be reduced to 40*l.*, and if the ratio be simple, the equation will be $\frac{40}{50} L = {\cdot}8\,L$; or ·8 L will be the mean life of laborers in the altered circumstances. If the mean natural life = 56 years it will be reduced to 45 years, which is the present mean life in the best country districts.

"It would be exceedingly interesting to have several series of observations on the incomes of the laboring population in town and country, in different circumstances, together with the cost of the required quantities of the necessaries of life. The effect on the mean life of the people could then be determined. These observations will, we may hope, be made. It is, however, certain, that a portion of the town population has not a full supply of the necessaries of life; but whether we compare the gross incomes of the inhabitants of towns and of the country, or the wages of laborers and artisans, it cannot be admitted that the command over the necessaries of life is in favor of the country population, which has been for many years sending emigrants in the prime of life to the towns, where they would scarcely become settlers if their wages were lower and subsistence less easily procured than in their birth-places.

"The other influences which affect health and life are the soil and atmosphere, climate and seasons, winds, temperature, hygrometricity and electricity. In particular places these may differ considerably in England. But the populations of the country and town districts, which have been compared, are in every variety of situation, so that whatever the mortality occasioned by excessive heat and moisture, cold and dryness, may be, it must fall very equally upon the town and the country districts.

"There remains another class of causes; atmospheric impurities, organic matter undergoing decomposition, and the contagious principles of zymotic diseases.

"The atmosphere, besides oxygen and nitrogen, contains carbonic acid and aqueous vapor. The mean proportion of carbonic acid is 49 volumes in 100,000 volumes of air, according to the younger Saussure; who also states that it varies from 37 to 62 volumes. Mr. Coathoupe has estimated the quantity of air which passes through the lungs of a man of ordinary size in 24 hours at 267 cubic feet, of which nearly 8 per cent. per volume, or 21 feet, are exchanged for carbonic acid;* the bulk would be equivalent to a cube of 6·4 feet. If, for a mere illustration, we assume that on an average 16 cubic feet of the gas are thrown off from the skin and lungs of each person, 30 millions cubic feet will be exhaled daily by the population of the metropolis, distributed over an area of about 1951 millions square feet. Add the amount of the same gas formed by animals of every kind,—fires, lamps,—and multiply the sum by 100, inasmuch as respiration for several hours in air which contains one or two per cent. of carbonic acid has been found to produce alarming effects (Broughton), and it will be seen that without effectual means of dispersion the amount of air vitiated in the metropolis, by this element alone, would be by no means inconsiderable.

"Is the excessive mortality, then, in towns, to be ascribed to the accumulation of carbonic acid, or of any similar gas, which is so rare as to be innoxious in open districts? It was natural, when it had been discovered that carbonic acid mixed in air destroyed animals, and after many accidents in mines and closed chambers had been traced to this agent, to ascribe the excessive mortality of towns to the same cause. Further investigation must show, I think, that it has but a small share in raising the mortality of towns, the provision for its dispersion is so complete.

The velocity with which the air rushes into a vacuum is the same as that of a body that has fallen from a height of about 26,000 feet (nearly five miles); or, according to the Torricellian theorem, putting v for velocity, g for the velocity acquired in one second by a body falling freely, and h for the height of the homogeneous gaseous column, $v = \sqrt{2gh}$. As $g = 32{\cdot}19$ feet, and $h = 26{,}000$, the velocity is 1296 feet in a second.† But the height of the column is inversely proportional to the density of the gas; the reciprocal of d (= the density) must therefore be put under the radical, in applying the formula to any other gas besides atmospheric air, which is taken as unity. The density of carbonic acid is $d = 1{\cdot}524$; and $v = \sqrt{2gh\frac{1}{d}} = 1049$. The velocity with which carbonic acid rushes into a vacuum is 1049 feet a second. In applying the formula to different gases, $2gh$ might remain invariable; d (= the density of the respective gases) would vary, and the relation of v (the velocity) to d (the density) is such that v would vary as the square root of the reciprocal of d. The density of hydrogen is ·069, and its diffusive velocity is 4920 feet a second, or 3·8 times the diffusive velocity of atmospheric air, 4·7 times that of carbonic acid; the diffusive velocity of carbonic acid is eight-tenths that of air.

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* Graham's Chemistry, p. 1016.

† Poisson estimates the height of the atmospheric column at the temperature of zero, pressure 0·76 metre, to be 7950 metres.

"Dalton discovered that carbonic acid entered the space occupied by hydrogen in the same proportion as if no hydrogen had been present. He inferred that gases do not, like liquids, exclude each other, and this is now admitted. So that if an air-tight chamber full of carbonic acid communicate with the external air, the same quantity of air will find its way into the chamber as if no carbonic acid gas were present; and if water were introduced, the same amount of aqueous vapor would occupy the space as if neither gas was present. The elasticity and density of the atmosphere of the chamber would be the sum of the densities and elasticities of all the gases and vapors. It has been assumed here, to simplify the statement, that while the atmospheric air entered, the carbonic acid gas remained; but it would in fact go out, for the same reason that the air entered in order to set the gases without and within in equilibrium."

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"The Professor remarks that the result of diffusion is, that gases enter space in the same quantities ultimately as if no other gas existed in the space: but that 'the diffusive process takes place in different gases with very different degrees of rapidity. Thus, the external air penetrates into a 'diffusion tube' with velocities denoted by the following numbers, 1277, 622, 302, according as the diffusion tube is filled with hydrogen, with carbonic acid, or with chlorine gas.'* This is quite in conformity with Dalton's doctrine, that 'the resistance which the particles of one gas offer to those of another is of a very imperfect kind, to be *compared to the resistance which stones in the channel of a stream oppose to the flow of running water.*'† One gas does not pass through another with the same velocity as it would through space; and the various retardations of the velocity of its passage through different gases is no more a deviation from the law than the fact mentioned by Professor Graham,—that the gases go more slowly through cork than through stucco. That the presence of air retards the diffusion of vapor is evident from Leslie's experiment for freezing water under the air-pump, in which the air is removed to facilitate the passage of vapor, from the surface of the water to the sulphuric acid. All the phenomena of evaporation into the atmosphere establish the same fact. The pouring of carbonic acid from one vessel into another proves equally well that the velocity of its diffusion is retarded.

"To form an idea of the dispersion of the carbonic acid gas generated in towns, according to the law in pneumatics, assume that 1000 cubic feet are formed per second; it will be equal to a cube of 10 feet. Now if this volume of carbonic acid were in the centre of a vacuum it would disperse in every direction at a velocity of 1049 feet a second. It is nearly the velocity of sound. A particle would fly a mile in 5 seconds, 12 miles in a minute. The velocity of a 'high wind' is 50 feet a second, 'a hurricane that tears up trees' 147 feet a second—one-seventh of the velocity with which carbonic acid rushes into a vacuum. If the gaseous film evolved every second over the area of the metropolis were pure air, it would only move slowly away, by the impulse with which it was thrown off and because it was lighter than the atmosphere: but as it is carbonic acid, the surrounding atmosphere is a vacuum, into which its rush is opposed only by the small quantity of carbonic acid gas existing, and the sluggishness of the aërial particles. The rapid removal of this gas from cities is effected by a force much greater and altogether independent of the winds. It is carried rapidly through the air, until it is fixed again by vegetation and exchanged for oxygen, which flows into the atmosphere of cities, according to the same law, to replace the oxygen consumed.

"These results are confirmed by chemical analysis of the air. The differences in the quantity of carbonic acid in winter and summer, night and day, are ascribed by Dumas to more of the gas being absorbed, retained, and brought down by rain in cold than in warm weather. They are meteorological changes extending over all the atmosphere. Chemists have hitherto failed to detect any

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"* Graham's Elements of Chemistry, pp. 75, 76.

"† Graham's Elements, and Manchester Memoirs, vol. v.

excess of carbonic acid gas in cities. A commission is now sitting in Paris, engaged in the analysis of the atmosphere by Dumas' method, which is held to yield the most accurate results. I am not aware that the air of any place in England has been analyzed by the new method; but the observations in other countries show no diminution of oxygen in the city air. Thus the oxygen was to the nitrogen in the air of Paris as 230·0 to 770·0 (by weight); and on Faulhorn, in Switzerland, 8767 feet above the level of the sea, as 229·7 oxygen to 770·3 nitrogen.*

"Carburetted hydrogen and sulphuretted hydrogen arising from graves are less dense, and are dispersed more rapidly than carbonic acid: scarcely a trace of them can be detected.

"Carbonic acid and other noxious gases can, as is well known, be confined for a time in well-closed apartments, and oxygen can be excluded; but the dispersive force is so great, that chemists have seldom succeeded in detecting any difference in the proportions of the gases, even in the air of crowded hospitals. If any difference exist it must be small, and might have a slight effect on health; but, as the experience of our collieries proves, would not raise the mortality to anything beyond a fraction of 40 per cent.; besides, the country is exposed as well as the town population to the influence of deleterious gases in the close chambers of small cottages.

It is, then, to matters suspended in the atmosphere of cities that the excessive mortality must be referred. Smoke is heated gas, carrying with it unburned particles in suspension; the carbonic acid is scattered immediately by its diffusive velocity, and the particles of solid matter, carried up by the heated air into the sky, disperse, become invisible, and fall around insensibly, in a clear atmosphere or at a distance when there is any wind. If watery vesicles are also suspended in the air, the column of smoke ascends but a little, carbonic acid is absorbed, the carbon imbibes water and air, it mixes with the watery cloud, and all the phenomena of a London fog are produced. These fogs form apparently when the temperature of the Thames is higher than the temperature of the air,† which is calm

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"* The proportions in the subjoined table are by weight; the aqueous vapor and carbonic acid were abstracted. They are all the analyses that have yet appeared in the *Comptes Rendus* of the French Institut.

	Oxygen.	Nitrogen.	Chemists.
Paris, ...	230·0	770·0	Dumas.
Brussels, ...	230·6	769·4	Stas.
Geneva, ...	229·8	770·2	Marignac.
Berne, ...	229·5	770·5	Brunner.
Faulhorn, ...	229·7	770·3	Dumas.
Groningen, ...	229·9	770·1	Verver.
Copenhagen, . . .	230·1	769·9	Lewy.
North Sea, ...	226·0	774·0	Id.
North Sea, ...	231·2	768·8	Id.
Elsinore, ...	230·4	769·6	Id.
Guadeloupe, ...	226·8	773·2	Id.
Guadeloupe, ...	231·4	768·6	Id.

"Recherches sur l'Air, by M. Lewy, Copenhagen. Comptes Rendus, t. 17. Aug. 1843, p. 235."

"† I believe that no comparative observations have hitherto been made in London on the temperature of the air and river; but Professor Fournet has shown, from the observations of four years at Lyons, on the confluence of the Rhone and Saône, that the temperature of the rivers, from November to March, is considerably higher than the mean temperature of the air. The fogs set in in November. *Météorologie* de (or if there be any wind it is nearly saturated), the fogs generally disappearing as the temperature of the air is raised by the sun.

"That the smoke is irritating to the air passages, injurious to health, and one of the causes of death, to which the inhabitants of towns are more exposed than the inhabitants of the country, is probable; but if the effect were very considerable it would be most evident in the dense fogs, when the atmosphere is loaded with smoke, and is breathed for several consecutive hours by the population—men, women, and children. Now we have never observed any connection between the increase of the mortality and the London fogs. The diseases, again, caused by smoke must be of a mechanical nature, and affect the lungs and air-passages; it may increase the pulmonary diseases, but will assuredly not produce scarlatina, measles, typhus, and other diseases which prevail in towns.

"There is another class of agents. In a school-room, say there are 100 children: a child is brought in for a few hours, in a state of scarlatina. The children have not had the disease before: 10 of them are affected. If 10 children with scarlatina were introduced, and the room were ill ventilated, 30 or 40 of the children might be affected. If the sick children had small-pox, measles, or hooping-cough, instead of scarlatina, those diseases would be communicated. If dysentery, cholera, typhus, and plague patients are frequently introduced into barracks or workhouses, a certain proportion of the inmates are affected. The numbers who are attacked by an infectious disease depend upon—1st, the susceptibility of the persons exposed (if the children in the school-room had previously had small-pox, or been vaccinated, a very small proportion of them would be infected by breathing the small-pox atmosphere); 2dly, on the strength of the zymotic matter, which varies in the stages and forms of the several diseases; and 3dly, on the density and ventilation of the room. If 100 healthy persons were placed in a room with 10 sick persons, and the room were small, the doors and windows closed, the greatest number possible would be infected; if they went through the disease in the same circumstances, the mortality would also be the greatest possible. So if public buildings, in which crowds of people assemble, were well supplied with pure air, it would be quite safe to resort to them; but as opera-houses, theatres, concert-rooms, lecture-rooms, Exeter-hall, chapels, churches, and large workshops, are not yet provided with proper mechanical means of ventilation, and the air is not withdrawn with sufficient rapidity when they are filled with people, the walls reek with the breathed atmosphere; and if any epidemic, such as influenza, be rife, several persons affected with the complaint are present, and great numbers are infected; the headache and oppression which come on are the first and often not the last symptoms. This is literally 'taking poison;' but it is generally called 'taking cold,' through the common prejudice of ascribing all our maladies to sensible causes. It is an error to suppose that rooms are healthy when they are not hot; but the heat which is generated may increase the effect of the zymotic matter.

"Certain substances, then, taken from the bodies of the sick, produce, when introduced into other bodies, a series of phenomena, developed according to a determined type: *Varioline* (small-pox matter), for instance, produces small-pox. These substances have the same relation to diseases as ferments have to well known chemical processes. Several of them float in the air, and form an atmosphere, the density of which is in proportion to the proximity of the bodies by which it is given off, and to the greater or less facility for escape. The 267 cubic feet of air passing through the lungs daily, if charged with these particles, will bring them into contact with the blood.

"What are the physical properties and chemical nature of these morbific par-

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Kaemtz.—(Note by French translator, *Ch. Martins*, p. 111.) Kaemtz remarks (p. 113) that '50 lbs. of incandescent carbon, exposed in the open air, will weigh from 105 to 107 lbs. in the course of a few days; a fact well known in powder-mills. Hence the particles of carbon in escaping from the chimney absorb air and become heavier. Nevertheless, the wind may carry them to a distance; but if the air be calm and humid, the specific gravity of the particles augments rapidly, they mingle in the fog, and spread over the neighborhood.'

ticles? Chemistry has left us much in the dark; but, until English chemists enter seriously upon the investigation of this subject (which is of inconceivable importance), we may accept the well-supported hypothesis of Professor Graham:—

"'Of the odoriferous principles of plants, the miasmata of marshes, and other matters of contagion, the presence, although sufficiently obvious to the sense of smell, or by their effects upon the human constitution, cannot be detected by chemical tests. But it may be remarked, in regard to them, that few or none of the compound volatile bodies we perceive entering the atmosphere could long escape destruction from oxidation. The atmosphere contains, indeed, within itself the means of its own purification, and slowly but certainly converts all organic substances exposed to it into simpler forms of matter, such as water, carbonic acid, nitric acid, and ammonia. Although the occasional presence of matters of contagion in the atmosphere is not to be disputed, still it is an assumption without evidence that these substances are volatile or truly vaporous. Other matters of infection, with which we can compare them, such as the matter of cow-pox, may be dried in the air, and are not in the least degree volatile. Indeed, volatility of a body implies a certain simplicity of constitution and limit to the number of atoms in its integrant particle, which true organic bodies appear not to possess. It is more probable that matters of contagion are highly organized particles of fixed matter, which may find their way into the atmosphere, notwithstanding, like the pollen of flowers, and remain for a time suspended in it; a condition which is consistent with the admitted difficulty of reaching and destroying those bodies by gaseous chlorine, and with the washing of walls and floors as an ordinary disinfecting practice.'*

"It is quite certain that animal matter is exhaled from the pulmonary and cutaneous surface. The particles are small and rare; but, according to Graham, they are inelastic; they are without that diffusive force inherent in gases and vapors, and will therefore only spread through the air like vesicular water, or fine dust over smooth water. When the breath is expired in winter, it passes from the lung with a certain force; but it soon separates into two portions; 1st, the carbonic acid, which would fall to the ground if it were not dispersed in all directions by the diffusive force; and 2dly, the aqueous vapor which ascends with the heated air and particles of animal matter; the air to mix in air, the water to be condensed, fall, or be dispersed, and the animal matter to float, fall, or be decomposed in the air. In a crowded room, theatre, or church, the carbonic acid is dispersed through every aperture at a retarded velocity. The gas exhaled from the body does not ascend to the roof, as is sometimes supposed, when the temperature of the room is low, for the specific gravity of carbonic acid is 1·524; and, as the density is inversely as the volume, and gases expand 1–493d part (Rudberg) for every degree of Fahrenheit, it only becomes lighter than air when 258 degrees hotter. The carbonic acid emitted from the lungs at a temperature of 100° is more than a third heavier than the air at 40°; its density is 1·359, the air being 1·000. The carbonic acid emitted by the candles or gas of a room is more than as light again as air; but it soon cools and grows heavier, and, if it were not for the diffusive force, would fall to the ground. Gases cannot remain permanently at the upper or lower parts of any apartment or edifice, in other proportions than they exist in the atmosphere; it would be easier for a torrent to stand still on a mountain declivity. They disperse, and can only accumulate around their source when generated rapidly. But particles in suspension†—inelastic, smaller, lighter than motes in the sunbeam—stagnate in air, and can only fall to the ground, or be carried away with the fluid in which they float. Smoke and organic atoms are removed from a room in the same way—by replacing all its gaseous contents; and particles of both are left adherent to the exposed surfaces, but in quantities smaller in proportion to the velocity of displacement.

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* Graham's Elements of Chemistry, page 281. Henry on Disinfection, Phil. Mag., second series, vol. x, page 363; xi., pages 22, 207 (1832).

† See some good remarks by Kaemtz on the suspension of clouds.—*Météorologie* (French translation), p. 121.

"Every population throws off insensibly an atmosphere of organic matter, excessively rare in country and town, but less rare in dense than in open districts; and this atmosphere hangs over cities like a light cloud, slowly spreading—driven about—falling—dispersed by the winds—washed down by showers. It is not *vitalis halitus*,* except by origin, but matter which *has lived*, is dead, has left the body, and is undergoing by oxidation decomposition into simpler than organic elements. The exhalations from sewers, churchyards, vaults, slaughter-houses, cesspools, commingle in this atmosphere, as polluted waters enter the Thames; and notwithstanding the wonderful provisions of nature for the speedy oxidation of organic matter in water and air, accumulate, and the density of the poison (for in the transition of decay it is a poison) is sufficient to impress its destructive action on the living—to receive and impart the process of zymotic principles—to connect by a subtle, sickly, deadly medium, the people agglomerated in narrow streets and courts, down which no wind blows, and upon which the sun seldom shines.

"A small quantity of organic matter can only escape with the carbon and aqueous vapor (37½ ounces daily, according to Dalton) from the skin and lungs. The presence of a putrid atmosphere is perceived by the senses in parts of all towns; and Liebig, by operating on large masses of the atmosphere, has obtained ammonia, which is a product of the putrefaction of animal matter. The existence in the atmosphere of organic matter is therefore incontestable; and as it must be most dense in the densest districts, where it is produced in greatest quantities, and the facilities for decomposing it in the sunshine and sweeping it away by currents of wind are the least, its effects—disease and death—will be most evident in towns, and in the most crowded districts of towns.

"It is to this cause, it appears to me, that the high mortality of towns is to be ascribed; the people live in an atmosphere charged with decomposing matter, of vegetable and animal origin; in the open country it is diluted, scattered by the winds, oxidized in the sun; vegetation incorporates its elements, so that, though it were formed, proportionally to the population, in greater quantities than in towns, it would have comparatively less effect. The means of removing impurities in towns exist partially, and have produced admirable effects; but the most casual observation must convince any one that our streets were built by persons ignorant as well of the nature of the atmosphere, as of the mortality which has been proved to exist, and is referable to causes which, though invisible, are sufficiently evident. The difference of the polluted and the pure atmospheres described by Milton is felt:—

'As one who long in populous city pent,
Where houses thick and sewers annoy the air,
Forth issuing on a summer's morn, to breathe
Among the pleasant villages and farms
Adjoin'd, from each thing met conceives delight.'

"I proceed to show, not only that the mortality is greater in town than in country districts, but that the mortality of town districts has a certain relation to their density. The relation exists strictly between the density of the organic particles suspended in the atmosphere and the mortality; but the density of the matter in the air cannot be determined directly, for obvious reasons; and with the same number of persons on a square mile, the number of particles in the atmosphere will vary in different districts, according as the agency for removing the refuse matter, by sewerage and other means, is more or less efficient. Still by taking districts, which, if the circumstances are not quite the same, and the populations are not entirely homogeneous, will have atmospheres which bear a certain relation to the numbers living on the same area, it will not be difficult to obtain interesting results. The area of the metropolitan districts is about 70 square miles; and there were (in 1841) 26,737 persons to the square mile, or one person to an area of 116 square yards, and one inhabited house to 865 square yards. In the east and west London districts (the city of London without the walls) the density is *one* person to every *sixteen square yards* of area, = four yards square. In estimating the density of the zymotic atmosphere likely to be produced by an individual, not only the square upon which he stands, but the elevation of the space over him, or the height to which particles ascend, should be considered. This space in the open air is invariably the same in every district; in-doors it is limited by the volume of air in the houses. In default of direct observations upon this interesting subject, it might be assumed that in districts at all similar the house accommodation is in proportion to the *specific population*, a term employed by Prony to designate the population to a given square area, but which, upon the assumption just mentioned, is expressed more commonly in England by 'density of population.'

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* Pliny.

"The occupations of men in towns are mostly carried on in-doors, often in crowded workshops, while the agricultural laborer spends the greater part of the daytime in the open air. From the nature of the particles of animal matter thrown into the atmosphere it is impossible to place the artisan in circumstances as favorable as the laborer; the sun and wind destroy and waft away the breath as soon as it is formed; but in the workshops of towns the men are shut from the sun, and no streams of the surrounding air carry off the steaming breath and perspiration, so that the mortality of working men in the metropolis is much greater than the mortality of women at the corresponding ages. In endeavoring to estimate the effects of density of population in districts I shall, to simplify the inquiry, take examples from the observations on females.

"The metropolis presents the most favorable opportunity for investigating the influence of density; it is an aggregate of masses of people in districts larger, more homogeneous, and more on an equality in respect to subsistence, than could be found elsewhere. The difference between district and district, street and street, house and house, is immense; but districts can be selected resembling each other, on the system of averages, in all important points, except density.

"The thirty statistical districts of the metropolis have been divided, in a subsequent table, into three groups, of different degrees of salubrity, each of ten districts. I take three from the class of districts in which the mortality is highest—Whitechapel, Shoreditch, and Bethnal-green. They are inhabited by very much the same class of people; the sewerage and supply of water are nearly the same; the value of assessed property is greatest in Whitechapel, less in Shoreditch, least in Bethnal-green; but the density is different, and the mortality is highest in the densest districts. Until the expectations of life have been calculated, the mortality may be employed.

Districts.	Annual Mortality of Females, (m).	Population to a Square Mile, (d).
Whitechapel, . . .	·02978	127,313
Shoreditch, ...	·02790	86,123
Bethnal-green, . . .	·02617	62,390

"The mortality was for the four years 1838–41. The mortality of males, and several other facts, are given in Tables, pp. 448, 449.

"It will be observed that the density of population is half as great again and the mortality one-fifteenth part higher in Whitechapel than in Shoreditch; so that the mortality does not increase in the same ratio as the density; and representing the density of the densest district (Whitechapel) by d', that of the least dense (Shoreditch) by d; the mortality of the densest district (Whitechapel) by m', that of Shoreditch by m, the proportion does not hold:—

$$m' : m : : d' : d.$$

"Upon reducing the terms to the form of an equation, it will be seen that the mortality increased as the sixth roots of the densities; for

$$\frac{m'}{m} = \sqrt[6]{\frac{d'}{d}}; \text{ and, consequently,}$$

$$m' : m :: \sqrt[6]{d'} : \sqrt[6]{d}.*$$

We have, then, the formula $m' = \sqrt[6]{\frac{d'}{d}}\, m$, which is the mortality of Whitechapel, expressed in terms of the mortality of Shoreditch, and the densities of Shoreditch and Whitechapel. By substituting the numbers expressing the mortality of Whitechapel, and the densities of Whitechapel and Bethnal-green in the formula, the equation is

$\sqrt[6]{\frac{62390}{127313}} \times \cdot 02978 = \cdot 0264$ for the mortality of Bethnal-green, the mortality given by direct observation having been ·0262.

"We may now compare three of the wealthiest districts of the metropolis, differing in density.

Districts.	Annual Mortality of Females, (m).	Population to a Square Mile, (d).
St. James, . . .	·02145	145,059
City of London, . .	·01968	94,488
St. George, Hanover-square,	·01707	39,018

"To ascertain whether the mortality bears the same ratio to the density in these districts, let this question be proposed :—

"Given the mortality of St. James's district = ·02145; the density of the population 145059 to a square mile; the density of St. George, Hanover-square, 39018 to a square mile, what was the mortality of St. George, Hanover-square?

"Here $\sqrt[6]{\frac{d}{d'}}\, m' = m$; and substituting the figures in the formula, the result agrees very exactly with the results of direct observation; $\sqrt[6]{\frac{39018}{145059}} \times \cdot 02145 = \cdot 0172$, the mortality of St. George, Hanover-square, the mortality observed having been ·0171.

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* "Say that the density of one district is to that of another as 729 to 64, then, according to this formula, the mortality will not be as 729 to 64, but as 3 to 2, numbers which are the 6th roots of 729 and 64, for 3 multiplied six times into itself is 729, and 2 multiplied six times into itself is 64. If 3 times 3 = 9, and 9 × 9 × 9 = 729, then 9 is the cube root of 729; 3 the square root of 9: consequently 3 is the square root of the cube root of 729; as 2 is the square root of the cube root (4) of 64, ($a^{\frac{1}{2}\times\frac{1}{3}} = a^{\frac{1}{6}}$ evidently in all cases.) The mortality is, according to this law, in the ratio of the bicubic roots of the densities. The ratio is most readily ascertained by the use of logarithms; with which, however, the preceding considerations enable us to dispense. For let the population to a square mile in one district be 15,625, in another 4,096, then the cube roots, and the square roots of the cube roots, can be immediately found in *Barlow's Tables of Squares, Cubes, &c.*

Numbers.	Cube Roots.	Square Roots of the Cube Roots.
15,625	25	5
4,096	16	4

The mortality in two such districts would, by the difference of density, be as 5 to 4.

"The mortality of the city of London deduced from the mortality of St. George, Hanover-square, and the densities of the two districts is

$$\sqrt[6]{\frac{d'}{d}}m = m'\text{; or, } \sqrt[6]{\frac{94488}{39018}} \times \cdot01707\ \cdot0198.$$

"The density of a district is deducible from the same formula. It may be expressed, however, differently; namely, by the number of square yards to a person, and denoted by y' in the district where the number of square yards to a person is greatest: then

$\frac{m}{m'} = \frac{\sqrt[6]{y}}{\sqrt[6]{y'}}$; and $\left(\frac{m}{m'}\right)^6 = \frac{y}{y'}$; consequently, $y = \left(\frac{m}{m'}\right)^6 y'$ = the number of square yards to a person in the least dense district.

"Given, the annual mortality in St. James $\left(\frac{1}{47}\right)$; in St. George, Hanover-square $\left(\frac{1}{59}\right)$, and the number of square yards (y') to a person (79) in St. George; how many square yards were there to a person in St. James's district?

$$\frac{\frac{1}{59}}{\frac{1}{47}} = \frac{47}{59}\text{; and } \left(\frac{47}{59}\right)^6 79 = 20,$$

the calculated number of square yards to a person in St. James's district. The number of square yards derived from direct observation is 21 (*see* Table, p. 436).

"If the averages of the three groups of metropolitan districts are compared, the influence of density is immediately seen, the different degrees of affluence being compensated for to a certain extent.

	Annual Mortality of Females, (m).	Density of Population.
	One in	Square Yards to *one* Person, (y).
10 unhealthiest statistical districts, .	36	32
10 medium districts, . . .	41	102
10 healthiest districts, . .	49	202

"The theory applies to the two extreme groups only; and the number of persons to one death in the *unhealthiest* districts may be deduced from the number of persons to a death in the *healthiest* districts, and the number of square yards to a person; $\sqrt[6]{\frac{32}{202}} \times 49 = 36$ = the number of living to a death in the unhealthiest districts. This is but a slight modification of the previous equation. In a complicated question of this kind, it would be premature to assume that the mortality of towns always increases, *cæteris paribus*, in the ratio of the 6th roots of the densities: but the formula may now be employed as an approximation in sanitory inquiries.

"It has been mentioned that the different town districts comprise variable proportions of surrounding country; and in comparing the mortality, the proper course which has been generally pursued, is to exclude the rural registrars' districts. But if the inquiry is into the influence or efficiency of the sewerage, &c., and the population is twice as dense in one town as in the other, what course has the inquirer to pursue? To take an instance:—The annual mortality of females in Hackney is ·01789, in Islington ·01989; the assessed annual value of property, divided by the population, in both districts, is 3*l.* 16*s.*; and the condition of the inhabitants, as regards subsistence, must be nearly the same; but there are 11,686 inhabitants on a square mile in Islington, 6,847 in Hackney. This difference in density alone would raise the mortality of Islington 1-11th part above that of Hackney. Introducing the numbers in the equation—

$$\sqrt[6]{\frac{11686}{6847}} \times \cdot 01789 = \cdot 01956,$$

the mortality of Islington. The mortality of Islington, derived from direct observation, is ·01989; a slight excess, which must be ascribed to differences of age, to the less effective sewerage of Islington, or to some other cause independent of mere density. The formula thus eliminates the element of density from the analysis of the causes of insalubrity.

"'It may be stated in general,' says Dr. Price, 'that whereas in great towns the proportion of inhabitants, dying annually, is from 1 in 19 to 1 in 22 or 23, and in moderate towns from 1 in 24 to 1 in 28; in country parishes and villages, on the contrary, this proportion seldom exceeds 1 in 40 to 50.'*

"The terms 'great towns,' 'moderate towns,' and 'villages,' are not sufficiently specific for our present purpose; but the general principle announced by Dr. Price is correct—that the mortality of towns has a tendency to increase at the same time as they extend. It is a particular case of the law of density. The displacement of the atmosphere of towns is effected by ascending columns and by circumfusion; it must diminish as the proportion of the surrounding to the enclosed houses decreases. The four sides of a solitary house are exposed to the currents of the atmosphere; of 16 houses built on equal squares, in the form of a square, 12 face the open country, 4 are completely enclosed. Of 10,000 houses on a square area, 9604 are enclosed; a city of 250,000 houses built on equal squares, and in the form of a square, would be surrounded by only 1,996 houses facing the country. The ratio of the total to the exterior houses built on a square area, if n express the number on a side, will always be $\frac{4(n-1)}{n^2}$; and the proportion of the exterior houses will diminish rapidly as n increase in all other polygonal forms as well as squares. That this disadvantage and that of density can be counterbalanced is seen by the fact that while the population of English towns has increased, the mortality has fallen in the largest, below the standard fixed by Dr. Price for moderate towns.

"It is proved beyond doubt that, if the population be the same in other respects, an increase of density implies an increase of mortality; and that the ratio of increase in the mortality is as certain roots of the density. If a further and more extended inquiry, into which I have not time now to enter, should confirm the principle that the mortality in towns† is as the 6th roots of the density of the population, it will be time enough to ask why this should be the particular ratio. But the chemists must first discover means of determining the density of the atmosphere of organic matter, which may be called the *zymotic atmosphere*, in different districts. The density of population is no strict measure of the density of the zymotic atmosphere; nor, admitting that the matter is a poison, does the relative density of the population express the relative quantities inhaled in a given time; if it did, it is improbable, and contrary to all analogy, that the mortality should increase in the simple ratio of the dose. The exact effect of increasing doses of poison has not been accurately determined; but it is well known that small quantities of all poisons are taken with impunity, and that the dose of arsenic, opium, or prussic acid may be increased up to a given point, at which the disease produced is severe or fatal. Four drops of prussic acid, diluted, may be taken with safety, when four drops more would kill a certain number of persons. How large, or rather, how small, the dose of matter may be which will produce a zymotic disease, it is impossible to say; but if a minute diluted charge of *vaccinine* (vaccine lymph) produced cow-pox, say one time in one hundred, it would be an interesting problem to determine, by doubling the quantity, in what ratio the proportions infected increased.

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* First Additional Essay, 1775. Works by Morgan. Seventh Edition, vol. ii., p. 218.

† I say 'towns,' because the application of the formula must have a limit.

"To show the application of our method of inquiry to the determination of the influence of different causes on the mortality, by particular instances, let us place two districts of the metropolis in juxtaposition:

	Mortality of Females.	Population to a Square Mile.	Persons to a House.	Mean Value of Rated Property to each Person.
				l. *s.*
St. George, Hanover-square, .	·01707	39,018	8·7	9 2
Whitechapel, . . .	·02978	127,313	8·1	2 16

"The mortality of Whitechapel is to that of St. George as 1·74 to 1; in other terms, it is 74 per cent. higher. The population of Whitechapel being the densest, the mortality is raised from that cause in the ratio $\sqrt[6]{\frac{d'}{d}} = \sqrt[6]{\frac{127313}{39018}} = 1·218$, or nearly 22 per cent.: with the same density the mortality of St. George would be ·02079. The difference in the command over the necessaries of life in the two districts is sufficiently well marked by the values of rated property, which, divided by the population, gives 9*l.* 2*s.* to each person in St. George, Hanover-square; 2*l.* 16*s.* in Whitechapel. In referring to the effect of subsistence, I proposed to affix to the expectation of life a coefficient, which would be unity when the income supplied drink, food, physic, clothing, firing, lodging, cleansing; and a fraction when the income was less than sufficient for these purposes. For the present example, let us *assume that the two districts represent stationary populations*; then where the expectation of life is 34 years, the annual mortality (with the qualifications explained in the Report) is $\frac{1}{34} = ·02978$; the mortality is, therefore, the reciprocal of the expectation of life; and the reciprocal of the coefficient of subsistence must be applied to the mortality, which increases as the duration of life diminishes. The mortality, ·01707, in St. George, Hanover-square, is the same as that which would prevail in a stationary population attaining the mean age of 56, which was taken (p. 411) for the *average* physiological duration of life; the mortality would be raised to ·02079 by the increase of density. Now it is pretty certain that the ratio of ·02079 : ·02978 is more than the coefficient of subsistence; for, in the poor districts of the country, the mortality is increased to no such extent. We will, therefore, take the reciprocal of the same coefficient as for the country districts $\left(\frac{10}{8} = 1·25\right)$, and apply it to ·02079, which it raises to ·02598. The mortality observed having been ·02978, this leaves ·00380 of the mortality unaccounted for, to be ascribed to the sewerage, slaughter-houses, dirty streets and courts, throwing more effluvial matter into the atmosphere in Whitechapel, where it accumulates, instead of being carried off, as a considerable portion of it is in St. George, Hanover-square. Let $d =$ the coefficient for the density of the population, and o for the quantity of the organic particles generated in a given time; $\frac{C}{N} = s =$ the reciprocal of the coefficient of subsistence; then the equation of mortality will be $(d)\ (o)\ (s)\ m = m'$; the m representing the natural mortality in the most favorable circumstances, and m' the mortality actually occurring in districts. For an example take $m = ·01705$, and substituting the figures of the other coefficients, the equation becomes $(1·218) \times (1·146) \times (1·25) \times (·01707) = ·02978$, the mortality in Whitechapel. For the (d, o) may be substituted $z = 1·396 =$ the ratio of the increase of mortality caused by a given density of the zymotic atmosphere, to which the product of (*d*) by (*o*), is an approximation. The coefficients would be probably both of the form $\sqrt{\frac{z'}{z}} \cdot \sqrt{\frac{s}{s'}}$, whatever may be the particular value of the radicals.

"I give this as an example of the methods to be employed in estimating the influence of particular agents on the mortality, and have assumed the numbers in the coefficients, without pretending that they are correct. These coefficients can be determined only by careful *observation* and analysis; and instead of the mortality at all ages, the *expectation of life* should be employed to furnish exact results. At a future time we shall be able to calculate these expectations of life from sufficiently extensive data. Where the difference in the mortality is considerable, and there is only one cause in operation, its influence is easily determined; but such simple problems are seldom presented by nature; and upon reflection we can scarcely expect the science of living matter to be less difficult, less complicated, less in need of the resources of observation, experiment, and calculation than the science of dead matter—than astronomy, natural philosophy, chemistry. As a proof of the imperfect state of our methods—that a sanitory inquiry is not such an easy matter as some suppose, and that we are only *beginning* to understand these things, the conflicting opinions on such questions as the effects of Montfaucon on the health of Paris, and the medical evidence before the late Parliamentary Committee on burials in towns, may be referred to. The zealous Parent Duchatelet's methods would not have detected great differences in the mortality; and he might almost as well have attempted to guess by his sensations the mean temperature of Paris, as to pronounce an opinion on the duration of the people's lives employed in Montfaucon; yet his paper has been cited as decisive on the question of the influence of putrefying animal matter!

"We hope to be able to determine more exactly, at some future time, the effects of the different external agents on health and the duration of life; in the meantime the results already obtained suggest two or three practical inferences, which I respectfully submit to those authorities who have the means of carrying sanatory measures into effect, not as new, but as resting on a more extended series of observations and calculations than have before been at our disposal.

"The Appendix to the First Report of the Registrar-General had the following statement, which is borne out by the experience of the four subsequent years:—

"'The mortality of cities in England and Wales is high, but it may be immeasurably reduced. A good, general system of sewers, the intersection of the dense, crowded districts of the metropolis by a few spacious streets, and a park in the east end of London, would probably diminish the annual deaths by several thousands, prevent many years of sickness, and add several years to the lives of the entire population.'

"This passage, and others in the interesting sanatory reports of Drs. Arnott, Kay, and Southwood Smith, with the facts disclosed by registration, were brought by the inhabitants of the Tower Hamlets under the notice of Her Majesty's Government, who, in a very liberal and kindly spirit, introduced a bill into Parliament, and carried it, for founding the Victoria Park, 'in the east end of the metropolis." Wider streets have already been carried through the densest districts, and others are projected. The results which have been arrived at in this paper, establish in the fullest manner, the utility of these measures, and will, I hope, lead to their extension, not only in the metropolis, but in the other cities of the kingdom.

"All 'improvements' disturb property, and injure individual interests; they are therefore not only attended by expense, but open to positive objections, over which it can only be shown that the advantages preponderate. The 'improvements' which followed the fire of London were obtained at the expense not only of much loss of property and inconvenience, but of suffering and death; still, if the result was the annihilation of plague, which destroyed not the houses but the lives of the great mass of the population every ten or twenty years, drove the Court and Parliament from London, spread through the kingdom, paralyzed trade, and was attended by a host of less dreaded maladies, which cut short and embittered life, the improvements were cheaply purchased. It has been stated that the narrow streets and overhanging houses, which are so common on the Continent, and of which too many traces remain in England, were erected in close contiguity, among other reasons, for the sake of the shade which they afforded in summer, and the shelter in winter; it is now known that this form of building, by obstructing the sunshine and atmospheric currents, is the cause of innumerable diseases; and notwithstanding the cost of any extensive alterations, there can be no doubt that it would be repaid by the amelioration of the health of the present and of future generations. To take down and rebuild whole districts at once, is, however, impracticable; the best that can be done in the circumstances, is to cut open spacious streets, which will carry and produce streams of air through the densest parts, drawing lateral currents from the adjacent narrow streets. Upon visiting some of the unhealthiest districts of the metropolis, I was greatly struck with the number of courts, or streets shut up at the end, particularly in the city of London without the walls; as the wind cannot pass through them, it is evident that the inelastic matter so abundantly generated, must be slowly replaced: why should not all these courts be opened at once? Compared with other more showy 'improvements,' the expense would be inconsiderable.

"The inhabitants of the 'rookeries,' which have been recently taken down, are dispersed. It would be interesting to know in what places they are now located. The objection to these measures is, that 'you take down the dwellings of the poor, build houses in their places for which the middle classes only can pay, and thus by diminishing the amount of cheap house accommodation, increase the rents, and aggravate the evil which you attempt to cure.' It is, undoubtedly, much easier to displace than to regenerate such a population—the sediment of vast cities which sinks into these obscure receptacles. If the displacement be gradual, however, the inconveniences of removal are diminished; and on a small scale it can have no influence on rents; the people dispersed, if they obtain money, obtain houses; or they return, like the Irish, home. The working classes, also, in cities, get lodged in the larger houses of the tradespeople and merchants, who, from the facilities afforded by omnibuses and railways, live every year in greater numbers out of town. But may not better dwellings for the artisan—models—be built in some of the new streets?

"Without entering into further detail, the facts in this paper and the accompanying tables, show clearly the necessity of renewing the atmosphere of towns as rapidly as possible, and diluting it to the greatest possible extent—certainly to a much greater extent than is now practised.

"The next suggestion refers to the diminution of the quantity of animal and vegetable matter thrown into the atmosphere of towns. The matter in question is derived from several sources; the *halitus** of men and animals, the soil of water-closets, burial-grounds, slaughter-houses, sewers, and streets. The *halitus* cannot be diminished in quantity, but the isolation of families in separate houses tends to prevent its accumulation; while the collection of persons in Robert Owen's parallelograms, and in public institutions, barracks, large schools, prisons, workhouses, must necessarily lead to the concentration of the respiratory excretion, particularly when, as is too frequently the case, the sleeping apartments are crowded, and no mechanical means are employed to facilitate ventilation. A public institution in the periodical epidemics, is like a town without party walls in a fire; nothing but a natural immunity can prevent the propagation of the zymotic action through the imprisoned atmosphere from person to person. According to the common estimate, 4 in 100 persons are sick, and as in the metropolis there are 75 persons in 10 houses, one person in every third or fourth house must be ill, while at the least, one in every eighth house will be afflicted with a disease of considerable severity. When the house is small, and perhaps dirty, it appears a great act of charity to remove a poor man suffering from fever, for instance, to a hospital, where he is provided not only with skilful medical attendance and with physic, but with the proper diet, warmth, and nursing. But have the benevolent founders of hospitals, and the medical officers who generally give their services gratuitously, sufficiently reflected on the probable consequences of bringing 50, 100, 300, or 400 sick bodies under the same roof, and into a few wards, which the sickly breath saturates? Have they ever compared the results of cases treated in hospitals, and in the poorest homes? When hospitals are crowded, the increase of mortality soon becomes striking. In the Hotel Dieu, at one time, 1 in every 4 persons who entered the pestilential walls died.* The mortality in the large metropolitan hospitals is twice as great as in the smaller country hospitals. This cannot be ascribed to defect of medical skill in the metropolis. Erysipelas and gangrene are still not infrequent in hospitals. The patient is fortunate who escapes phlebitis, or purulent deposits, after any serious operation in a hospital. It is the adventitious disease, and not the knife of the surgeon that is fatal. Are not the effects of general hospitals of the same nature as those that have more than once led to the evacuation of lying-in hospitals? I have rarely seen any statement of the mortality of cases of fever, small-pox, or any other disease, in which it did not appear that a person was twice as likely to die in a hospital as a person suffering from the same disease out of doors. It is generally said, 'Yes, we admit that our mortality is high, but the worst cases are sent in the last stage of illness to the hospital.' Is this certain? Will it account for all the difference? I doubt it very much. And I express the doubt in the hope that the question may be strictly, honestly, and conscientiously investigated by some qualified person who has time to devote to the subject. Until this be done, no attempt should be made to extend the system of assembling the sick in the same buildings.

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* Under *halitus*, the 'breath' and 'perspiration' are included in this paper.

"The expense of a patient in a hospital is from 7*s*. to 14*s*. a week. What would be the effect of allowing a married man in a fever the same nutriment at home, supplying him with an occasional nurse, and seeing that his house was well cleaned and kept comfortable? He would be surrounded by those who from natural affection loved him, instead of the dying and dead in the wards of a hospital. Would not this be an excellent season, too, for religion, charity, and science, to instil just principles and habits into the poor—to ameliorate their homes—so that the sick man may not, as when he returns to his family from a hospital, alive and convalescent, be exposed again to the same agencies as produced the previous attack?

"The space allotted to the sleeping-rooms of many public institutions in towns is too small. It should in no case be less than 8 feet cube (=512 cubic feet) to each person, with proper apertures for the removal of the breath. If the air were removed twice as fast, a room of 500 cubic feet would afford the same advantages with regard to health as a room of 1000 cubic feet; but it is a difficult matter to remove air from a room with a double velocity—more difficult and expensive than to make the rooms, at least on hand, of sufficient extent in the first instance. The mortality in crowded rooms, if carefully investigated, would no doubt be found to be in a certain inverse relation to the space, a death marking every degree of concentration of the expired atmosphere. The families of many artisans who get good wages lodge in a single small room, the rent of which is equal to that of a cottage in the country. This is a miscalculation on their part; on coming from the country they get in town higher wages, and could afford to pay for more expensive lodgings, but finding they *can* live in one room, do so, expending the surplus wages on dress, beer, and better food. To refrain from these would be to curb a natural appetite; they are only reminded of the want of room and pure air by a slight present uneasiness and discomfort. As they do not trace to their causes the deaths of their children, and disabling, dangerous attacks of sickness, they are led to look upon these events as inevitable. With the limited income at his command, a working man in town is compelled to practise self-denial ; now calculation shows that clean spacious lodging is one of the most necessary things to the maintenance of health, and that it is safer to forego other things, such as beer, which, though nutritious, is not indispensable, while spirits are more frequently injurious than beneficial.

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* Il périssait (18th century) le quart de ce qui y entrait, et la moitié du reste n'en sortait qu'après avoir echangé une maladie en elle-même de peu de durée contre une langueur sans remède.—*Eloges Historiques, par Cuvier.—Tenon.*

"Cuvier's definition of life, or of a living thing, in its utmost generality, is so strictly applicable to a city, that 'London' may be substituted for '*la vie*' in the following sentence :—

"'La vie est donc un tourbillon plus ou moins rapide, plus ou moins compliqué, dont la direction est constante, et qui entraîne toujours des molécules de mêmes sortes, mais où les molécules individuelles entrent et d'où elles sortent continuellement, de manière que la forme du corps vivant lui est plus essentielle que sa matière.'*

"It would be easy to draw the parallel. But I wish merely to remark, that if it is of vital importance to procure the flow of a constant stream of sustenance into a city, it is equally important that the used matter, animal or vegetable, when it has entered and passed through the 'tourbillon,' should be restored back to its source, or be at least removed. In effecting this capital must be sunk ; for art and labor are required, as well to return as to bring in the organized matter, yet it could not be expected that while people remained ignorant of the fact that the accumulation of effete matter is as fatal to a population as famine, they should be ready to incur any great expense for its removal.

"The present investigation fortifies the frequent recommendations which have been made in these Reports, and in all works on public health, with regard to sewerage. I shall not refer to the subject further at the present time, as it has occupied the special attention of the 'Health of Towns Commission,' comprising among its members distinguished persons largely interested in property, as well as gentlemen of great sagacity and scientific knowledge, from whom may be expected such practical suggestions on the subject as shall serve for the basis of an Act of Parliament, regulating, by some simple provisions, the entire architectural structure of towns.

"I have stated, in previous papers, that we should not rest satisfied with throwing the refuse of towns into the rivers, as this refuse matter, which in certain circumstances is a poison to man, is the nutriment of vegetation, and constitutes, with water, the difference between the barren desert and populous kingdoms. The more organic matter there is, the more subsistence—the cheaper food will be. If Mr. Martin's grand and magnificent conceptions cannot be carried out, the ingenious suggestion of Dr. Arnott deserves to be seriously considered. 'Engineers who pump from the Thames many miles above London, to supply pure water to the inhabitants, could as easily, by pumping away to any desired distance the fluid from the drains, supply the most valuable manure yet known—fluid town manure—to the horticulture and agriculture of the district ; and the purity and beauty of the Thames, where it passes through London, would be preserved. Fluid manure, by sinking at once into the earth, is much less offensive to the neighborhood, and affects less the purity of the atmosphere, than an equal quantity of solid manure, spread, as it usually is, on the surface of the earth.'†

"Whether the remark in the last sentence is correct, we are perhaps not quite prepared to say ; but no matter of the kind appears to be sensibly injurious to animals when it is in contact with vigorous vegetation, and is not present in excess. If the irrigation, in an instance referred to by Dr. Allison, convert the meadows around Edinburgh into 'putrid marshes,' it would be in the teeth of all analogy to infer that the practice is innoxious ; but if it render the soil more fertile, and is not in excess as manure, it must be inoffensive to the health of Edinburgh. Upon the same principle, drainage, and all the improvements of agriculture, which tend to increase and invigorate vegetation, to the same extent, impress vitality on decaying matter, and promote the health of the population.

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* *Règne Animale.*

† Dr. Arnott's Sanatory Report ; *Local Sanatory Reports,* Scotland, p. 12.

"Much of the putrefying atmosphere of English towns would be got rid of by removing the cattle markets, slaughter-houses, and manufactories of the animal remains to convenient, distant localities. At present, the greatest amount of putrid matter is accumulated in districts like Whitechapel, and the City of London without the walls, where the population is most dense, or the sewerage is most imperfect.

"For many purposes in which the health of the poor is more directly concerned, the metropolis should be treated like other aggregated masses of people—as one community. The injustice and inconvenience of a different course is shown by a reference to the returns of poor-rate in subsequent tables, from which I shall extract a few facts that have not obtained all the attention they deserve.

"The amount of money expended upon the relief of the poor (assuming the benevolence and kindly feeling to be the same in all districts) will depend upon two circumstances; 1st, the number and wants of the poor; 2d, the wealth and number of the rate-payers. If all the inhabitants were affluent, there would be no poor-rate, because there would be no poor; if all were destitute, no poor-rate could be levied. The poor-rate will be found to be the reciprocal of the ratio of the property and poverty—the givers and receivers; highest in the parishes where half are wealthy, half paupers; lowest where the great majority are poor or rich.

"In the metropolis, subdivided into a great number of parishes, the rich are accumulated in some districts, the poor in others; and the consequence is that, whereas in provincial towns, comprising a single parish or union, the rate-payers contribute in some proportion to their assessable property and means, the reverse is the case here. The poorest rate-payers pay the highest rates in the metropolis."

There are other subjects of great interest investigated statistically in this volume; such as, the causes of mortality at different periods of life, and the difference of mortality in different parts of London. But our further notices must be brief.

"One of the most interesting applications of these Tables" [alluding to the former subject], says Mr. Farr, "is to the determination of the expectation of life among persons destined to die of different diseases. The insurance offices (except one) are in the habit of refusing to insure the lives of persons having hereditary or accidental tendencies to consumption; but the lives of consumptive persons, though shorter, are regulated by laws as constant as those which are observed of persons dying of other diseases; and, admitting that the applicant will ultimately die of consumption (but is not laboring under the disease), he need not be deprived of the advantages of assurance, for his chance of living can be determined, and the risk calculated. I will discuss this subject at a future time, when more facts have been collected; in the interim, the following example will show how Life Tables for those who are likely to die of the several diseases can be constructed:—

"Take the numbers out of the preceding table who die of consumption at the different periods of life; subtract the numbers successively from the total deaths by consumption, and what I have called a 'Decennial Life Table' will be formed for this class. The interpolation by the method of differences is easy.

Life Table, applicable to Males who die of Consumption.			Expectation of Life in the Metropolis.	
Age.	Living.	Dying.	of persons who die of Consumption.	of all Males.
0	8,297	1,199	35	35
10	7,098	554	30	44
20	6,544	1,438	23	36
30	5,106	1,498	17	29
40	3,608	1,611	13	22
50	1,997	1,321		
60	676	576		
70	100	100		

As regards the different mortality of different districts of a large city, this subject was first investigated by M. Villermé relative to Paris. In the metropolis of Great Britain, the general result may be thus stated:

> "The mortality is sixty-six per cent. higher in the unhealthy than in the healthy sub-districts; the proportion of births is fifty-one per cent. higher in the unhealthy than in the healthy sub-districts."

Art. VIII.—*The Cyclopædia of Practical Medicine.* Edited by John Forbes, M.D., F.R.S., Alexander Tweedie, M.D., F.R.S., and John Conolly, M.D. Revised, with Additions, by Robley Dunglison, M.D. Philadelphia: Lea & Blanchard. Parts II., III., IV., V., and VI.

In noticing the first part of this reprint, we expressed an opinion in a measure unfavorable. We pronounced the articles to be of very unequal merit; and while we had every disposition to do the fullest justice to the writings of such men as Forbes, Prichard, Hope, Tweedie, Conolly, and others, we conscientiously stated our conviction, that, taken as a whole, it fell far short of what the work ought to be. We should not recur to this subject, were it not that our publisher has been accused of dictating to us an opposition to the Cyclopædia on the ground of the interested motives of having in press the rival work of Copland's Dictionary of Practical Medicine. Now, it so happened that we by chance mentioned to our publisher, prior to the appearance of the last number, that we had written an unfavorable notice of the Cyclopædia; and such were his feelings on the subject, that, instead of having suggested it, he actually besought us not to give it an insertion. Our worthy publisher, by the way, who has had not a little to do with editors, never interferes with their duties.

This explanation we make on the exclusive ground of being due to our publisher. As regards ourselves, conscious of the rectitude of our motives, we shall always treat, editorially, such an imputation with the silence that it merits. The Cyclopædia of Practical Medicine (for which we paid the round English price of $35), we have had in our possession for several years; and it was from an extensive examination of the work that we arrived at the conviction expressed in our last number. Although it is said to be a principle with editors never to admit an error, yet, in the present instance, we have asked the opinion of three medical gentlemen of this city, unsurpassed in the whole extent of our country in an acquaintance with medical literature, as to the merits of this work, intending, if they differed with us, to modify our opinion in the present notice. So far, however, from such being the case, their opinions coincided in putting the work lower in the scale of merit than we had done.

We have cast our eye over Parts I., II., III., IV., V., and VI., and we are pleased to say that we are generally gratified with the notes of the American editor. His extensive knowledge of medical science as it exists at the present day, enables him to add much that is valuable. We especially admire his numerous small additions thrown into the text. But, at the same time, this good practice is sadly tarnished, as has been already noticed by a brother-editor, by a continual reference to his own writings. After mentioning a principle recognized a thousand years ago, indeed the most familiar fact, as the use of the most ordinary therapeutic agent, unceasing reference is made to some one of his works. Now such reference is wholly unnecessary, unless his writings, in these particular instances, are characterized by originality.

But we regret to be obliged to add that we find other and more serious objections in the part assigned to the American editor. For example, take the article, *Climate*. Here, although the English writer sets out with the admission that *physical* climate "*affords matter of the greatest interest to the medical philosopher*," yet he confines himself exclusively to what he designates as *medical* climate. This entire absence of any exposition of the laws of physical climate was a great defect in the original work; but in the American editor it betrays a still greater remissness, as there is no other country in the world, in which the laws of climate, so far as regards the distribution of temperature, have been so fully developed as in the United States. Even upon the subject of *medical* climate as regards the United States, the American editor's notes are limited to two short paragraphs: and here again reference is made to the author's work on Hygiène of 1835, when the subject of our climate was literally yet in its swaddling-bands.

There is one subject more, which to pass over in silence would be almost criminal. We refer to the agency of the exhalations of putrid animal matter in the production of disease, which, it is assumed by the English writer, Dr. Darwell, are innocuous when diluted, to some extent, in the atmosphere. In this opinion, the American editor coincides, as appears by the following note:

> "It has been supposed that putrid animal exhalations are a common source of fever—intermittent, remittent, and continued—yet it would not seem that disease of any kind is often produced from this cause. It may, indeed, be affirmed, as the writer has done elsewhere, from numerous observations (Dunglison's *Elements of Hygiène*, p. 108: Philad. 1835), that in the vicinity of the workshops of the 'knackers,'—whose occupation it is, in the large cities of Europe, to convert the dead horse to useful purposes, cats' and dogs' meat, bones for the distillation of hartshorn, &c.—although the atmosphere is intolerably fetid to the casual visiter, neither the workmen nor the families around are liable to malarious, or to any disorder, which can be fairly referred to that cause; that

in the year 1828, a committee was appointed in Paris, to inquire into the circumstances connected with the operations of the knackers; and every one examined by the committee agreed that they were most offensive and disgusting, but no one that they were unwholesome; nay, it was even inferred, that they were conducive to health, as all the men, women and children, concerned in the works, had unvarying health, were remarkably well in appearance, and strong in body, the workmen commonly attaining old age, and being generally free from the infirmities that accompany it; and when an epidemic fever was in full force, not one of the workmen in the establishment of Montfaucon was affected by it; that, as already remarked, the gut spinner, whose occupations prior to the discovery by M. Labarraque of the disinfecting power of the chlorinated preparations, were most offensive, owing to the putridity of the macerated intestines, enjoyed remarkable health; and lastly, that although the tainted air of the dissecting room is breathed month after month, and for many months, by hundreds of students in different parts of the globe, no epidemic fever or special disease is generated.

"All these affirmations have been since confirmed by a hygienist of distinction (Parent Duchâtelet, *Hygiène Publique*, Paris, 1836). In the first place, as regards the shops of the knackers, or *chantiers d'équarrissage*, the filth and stench of whose operations are stated to be horribly offensive, M. Parent describes the establishment of Montfauçon, to which allusion has been made, as immense, the number of horses taken to it, either dead or to be killed, being twelve or thirteen thousand annually. The men are described as enjoying the most flourishing health, the women as most fruitful, and the children as pictures of healthful energy. Of the health of the manufacturers, he speaks in equally strong terms; and he adds, that the workmen in the *chantiers* were remarkably exempt from disease during the prevalence of cholera in Paris. There were fewer fever patients admitted into the Hôpital Saint Louis, which is situate in the district of the *chantiers*, than into any other hospital of the metropolis.

"As respects the dissecting rooms, a wide field is afforded in Paris for testing whether they be unwholesome to the students and attendants, and to the inhabitants in the vicinity. M. Parent unhesitatingly expresses his conviction that there is no ground for the belief that the dissecting rooms are *foyers* of morbid emanations. In support of this opinion, he adduces numerous facts, and the decided opinions of Lallemand, Desault, Dobois, Dupuytren, Boyer, and many others; and as regards the effect of the dissecting room on the health of students and persons attached to and employed in them, his testimony is no less unequivocal. He states, and brings forward the testimony of Messrs. Andral, Lawrence, and others in confirmation, that there is no disease whatever to which they are liable from the cadaveric emanations; that gastro-enteritis, meningitis, and typhoid fevers are very frequent, according to M. Andral, among the students during their first year's residence in Paris; but these diseases depend so little upon the mere circumstance of dissecting and remaining in the dissecting rooms, that they are more common amongst those who have not begun to dissect. Desault was in the habit of saying that he firmly believed the air of the dissecting rooms had saved him from attacks of epidemic and other diseases, of which those hospital physicians and surgeons, who seldom or never dissected, appeared to be much more susceptible than he." (*American Medical Intelligencer*, for 1838, p. 162.)

Now all this is a notion so wild that it strikes at the very foundation of our sanitary principles. If it really is a fact that animal and vegetable remains when undergoing decomposition, are not productive of disease, then are all the great objects of our sanitary laws the merest displays of nonsense; but if improved cleanliness, drainage, ventilation, and other means, do diminish disease and mortality, the affirmative of which can be readily established, then is this theory of the innocuousness of putrid animal remains one deserving of the severest condemnation. We promise to show not only that it is an error, but one that carries with it, if acted upon, a thousand evils to life.

We had prepared for this number of the Journal a pretty extended notice of the " Supplementary Report on the Results of a Special Inquiry into the Practice of Interment in Towns, by Edwin Chadwick, Esq.," being a supplement to the admirable " Report on the Sanitary Condition of the Laboring Population of Great Britain," noticed at length in our March number. But as we shall have no room for the whole of the present notice of the Report of Interment in Towns, we have concluded to make use of such part as is applicable to the present subject, reserving the rest for our next number.

In this Report, Mr. Chadwick has demonstrated triumphantly the erroneous conclusion to which M. Parent Duchâtelet arrived in his extended investigations at Paris. But before bringing under notice the results of that extraordinary man, M. Duchâtelet, reference will be made to some previous investigations conducted in 1828.

In Paris, in 1828, a committee was appointed for the purpose of ascertaining the effects, if any, exercised upon the human frame by the knacker's operations, where the disgusting process of making music strings from the intestines of animals is pursued; and all the witnesses brought before the committee concurred in the opinion, that, notwithstanding horribly offensive and disgusting, they were not only not unwholsome, but actually conducive to the promotion of health. We were told then, as subsequently, in the inquiry instituted by Duchâtelet, that the men had "*santé la plus florissante*," many of the women, "*santé brillante*" and "*fecondité remarquable*," and even the infants, who were sometimes cradled "*dans l'interieur d'une carcasse, comme dans un berceau*," we are told had "*force et mine admirables!*" Not satisfied with this glowing description of the healthfulness of breathing an atmosphere laden with the most putrid animal moleculæ, the men as enjoying the most flourishing health, the women as remarkably fruitful, and the children as pictures of healthful energy, we are further apprised that they secure an exemption from epidemics, as occurred during the prevalence of the cholera in Paris. The establishment of Montfauçon, designated *chantiers d'équarrissage*, where the number of horses taken annually, either dead or to be killed, amounts to twelve or thirteen thousand, is here referred to by Duchâtelet. But the number of dogs and cats flayed, in this disgusting, but very necessary, establishment, is still much greater, as they are brought not only from Paris but the surrounding country.*

The question whether dissecting rooms are ever the *foyers* of morbid emanations, is also a subject which has engaged much attention; and M. Duchâtelet, after much investigation, for which Paris offers a wide field, unhesitatingly declared his conviction in the negative.

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* One of the most abominable evils of these " chantiers," at least so it is considered, is the secret selling of the flesh of the dead horses as food to the inhabitants of Paris, notwithstanding the vigilance of the police. But then the abominableness is all in the mere idea; for it is eaten from choice by many of the men employed in the great slaughter-house at Montfauçon; in Denmark and Sweden, its public sale is authorized; and we are told by Baron Larrey, in his great work on Military Surgery, that, in the Russian and Egyptian campaigns, the wounded of the French army were fed for weeks, and even months, upon horse-flesh, without the least injurious consequences. Many other instances might be adduced.

There yet remains a still more uninviting subject, in the state of the "*fosses d'aisance*" in Paris. Boastfully self-styled " the centre and mart of civilisation and refinement," this condition of things, which may find sufficient explanation in the remark that, in Paris, dwellings are not provided with water-closets on the English and American plan, is one of the greatest reproaches to the metropolis. The more fluid part of this excrementitious matter, as well as all other liquid refuse, of course permeates the soil, and necessarily contaminates the springs from which the wells are fed; but the good people of Paris never troubled themselves to know, whither it went, or what was its ultimate destination! The periodical cleansing of these " fosses," is a horribly offensive operation; and the scavengers employed in this disgusting duty, are occasionally liable to a sudden attack of asphyxia, on account of certain gases evolved from infected sewers. But as regards the influence that the sewers have on the health of the workmen employed in their repair, Duchâtelet is decided in the opinion that their lives are not shortened by this apparently most unhealthy occupation. The health of these people, he says, is "*parfaite, et fort rarement derangé.*"

It was to such investigations, as remarked previously, that Duchâtelet devoted years of his life. There was not a considerable sewer in Paris, that he had not traversed, and he was not unfrequently found assisting the workmen. We are told by his biographer that he never exhibited the repugnance which these places naturally excite; and he adds—*je dirois presque qu'il les aimait—I had almost said that he loved them!* An anecdote is related of him that, burthened with a court dress, in the midst of a fête at the Hôtel de Ville, he whispered to a friend, that he would a hundred times rather go into a sewer than into such a company! Indeed, it was in sewers that he won immortality; and such is the contagion of a noble example, that we feel infected ourselves with a portion of his enthusiasm, ready to tuck up our sleeves and breeches to descend into the sewers, animated with the true hygiènic spirit.

We have thus been at pains to present the strongest evidence in favor of the opinion that putrid animal exhalations are not detrimental to human life; but, at the same time, we are compelled to say that we doubt the truth of the conclusion in its fullest extent. All the preceding testimony as to the innocuousness of emanations from animal remains, rests, of course, upon negative evidence; and we will now show, chiefly from Mr. Chadwick's Report on Interments in Towns, that the facts in respect to such alleged innocuousness, are incompletely stated. Even among those who deny the deleterious qualities of animal emanations, the concession of its injurious tendency is perhaps always admitted. Thus Parent Duchâtelet, after strenuously condemning the unjustness of the complaints against the anatomical schools, admits their offensiveness, and recommends the following mode of wholly avoiding the risk of infection:

> " Instead of retaining the 'debris' of dissection near the theatres of anatomy, it would certainly be better to remove them every day; but as that is often impracticable, there ought, on a good system of 'assainissement,' to be considered the mode of retaining them without incurring the risk of suffering from their infection."

Similar assertions, it has been seen, have been made relative to gravediggers, the workmen exposed to the putrid emanations arising from cleansing sewers, to the emanations from the remains in slaughter-houses, to the *chantiers d' equarrissage* or receptacle for dead horses, the *depôts de vidange* or receptacle of night soil, etc. These facts, it is contended by Mr. Chadwick, have also been imperfectly observed.

Positive evidence of the propagation of acute disease from putrid emanations is adduced by Mr. C. "Whilst M. Parent Duchâtelet," he says, "was looking for immediate appearances of acute disease on the robust workmen living amidst the decomposing animal effluvia of the Montfauçon, I have the authority of Dr. Henry Bennett [who was house surgeon at St. Louis], for stating that he might have found that the influence of that effluvium was observable on the sick at half a mile distant." Thus a cause common to a whole class is often not evinced in particular individuals, while taking the whole class, it is visible in the general pallor and the reduced sum of vitality, or in the diminished mean duration of life, as compared with that of another class in like circumstances, save this single exposure. But the best evidence that can be brought in confutation of these fallacies, are the dreadful facts contained in our mortuary registers, which show, in proportion to the constancy and the intensity of the combined operation of these causes, not only a high ratio of deaths, but a marked reduction of the mean duration of human life. This point will be abundantly illustrated in reference to various parts of England. In Manchester and Liverpool, for example, the community divided into three classes will have a ratio of mortality corresponding to their exposure to the same combination of causes, which have been pronounced innocuous by Duchâtelet. Thus the highest class in these towns have, as will be shown, an average age at death three times as high as that of the lowest or operative class; while, compared with the lowest average of an agricultural county, the latter is found to be just as favorable as that of the class of gentry and professional men belonging to the locality of a town. It is, indeed, proved, on every hand, by the sanitary reports of all the countries of Europe, that a diminution of the causes of deaths in cities is produced by better supplies of water, sewering, and cleansing, by widening of streets, by opening new thoroughfares, and by better ventilation; and these results, when taken in connection with the effects of other hygiênic improvements in the general habits of the population, are more especially apparent in a diminished infantile mortality, and in an increased average age of each adult class up to octogenarians. Now, are these results not fairly ascribable to the prevention of an accumulation of animal and vegetable remains?

It was these circumstances that first led us to doubt the truth of the deductions arrived at by Duchâtelet; and with the view of confuting them effectually, it has been necessary to treat of the subject more at large. As Mr. Chadwick has, however, presented an octavo of nearly 300 pages, containing evidence opposed to that of M. Duchâtelet, we scarcely aspire to do the subject simple justice.

The whole class of butchers, who are often instanced in proof of the innocuousness of the emanations from the remains in slaughter-houses, are not fair examples, as they are much in the open air and have very active exercise; but the men exclusively engaged in the slaughter-houses, in which there is a neglect of cleanliness and due ventilation, have, according to Mr. Chadwick, a cadaverous aspect.

Another doctrine still more extensively entertained is, the opinion that, notwithstanding injury may be produced by putrid emanations, they are not productive of specific disease, such as typhus. Mr. C. adduces, however, on the opposite side of the question, some facts that seem to be incontrovertible. That instant death sometimes occurs to grave-diggers from the accidental inhalation of the concentrated miasm which escapes from coffins previously inhumed, is undeniable. In other instances, exposure to such miasma produces what are designated "low fevers," which terminate more slowly in death. It not unfrequently happens that leaden coffins in the vaults of cemeteries, unless they are watched and "tapped" to allow the mephitic vapor to escape, burst with a loud report; and such instances, in cases of rapid decomposition, even occur in private houses before the entombment.

A remarkable case of the propagation of disease from putrid emanations, which was stated to be a case of fever communicated after death, is given by Dr. Copland, in his evidence before the Committee of the House of Commons. A distinguished English gentleman, on going up the steps of a chapel, felt a rush of foul air issuing from the grated openings on each side of the steps. He was at once seized with a sensation of sinking, with nausea and great prostration of strength. A very malignant form of fever followed, and he died eight days afterwards. His wife took the same disease and died also in eight days, the symptoms being the same in both cases. Now, had this individual gone into a crowded hospital, would not this fever, had other circumstances contributed to the same end, have become contagious? Among the medical evidence adduced by Mr. Chadwick, much of it is of the following tenor: "Some years since a vault was opened in the church-yard (Stepney), and shortly after one of the coffins contained therein burst with so loud a report that hundreds flocked to the place to ascertain the cause. So intense was the poisonous nature of the effluvia arising therefrom, that a great number were attacked with sudden sickness and fainting, many of whom were a considerable period before they recovered their health."

The evidence of Dr. Southwood Smith, physician to the London Fever Hospital, on the effects of putrid emanations, is so much to the point that an abstract of it cannot but be acceptable to the reader:

> "1. That the introduction of dead animal matter under certain conditions into the living body is capable of producing disease, and even death, is universally known and admitted. This morbific animal matter may be the product either of secretion during life or of decomposition after death. Familiar instances of morbific animal matter, the result of secretion during life, are the poisons of small-pox and cow-pox, and the vitiated fluids formed in certain acute diseases, such as acute inflammations, and particularly of the membranes that line the chest and abdomen. On the examination of the body a short time after death from such inflammations, the fluids are found so extremely acrid, that even when the skin is entirely sound, they make the hands of the examiner smart; and if there should happen to be the slightest scratch on the finger, or the minutest point not covered by cuticle, violent inflammation is often produced, ending, sometimes within forty-eight hours, in death. It is remarkable, and it is a proof that in these cases the poison absorbed is not putrid matter, that the most dangerous period for the examination of the bodies of persons who die of such diseases is from four to five hours after the fatal event, and while the body is yet warm.
>
> "That the direct introduction into the system of decomposing and putrescent animal matter is capable of producing fevers and inflammations, the intensity and malignity of which may be varied at will, according to the putrescency of the matter and the quantity of it that is introduced, is proved by numerous

> experiments on animals; while the instances in which human beings are seized with severe and fatal affections from the application of the fluids of a dead animal body to a wounded, punctured, or abraded surface, sometimes when the aperture is so minute as to be invisible without the aid of a lens, are of daily occurrence. Though this fact is now well known, and is among the few that are disputed by no one, it may be worth while to cite a few examples of it, as specimens of the manner in which the poison of animal matter, when absorbed in this way, acts; a volume might be filled with similar instances."

Passing over these remarkable instances, which occurred under the observation of Sir Astley Cooper, Drs. Babington and Travers, and others, Dr. S. proceeds to show, by evidence that is incontrovertible, that this morbific matter, diffused through the atmosphere in minute particles, is no less capable of penetrating the system through the thin and delicate walls of the air vesicles of the lungs in the act of respiration, than when it is directly introduced into the blood-vessels by a wound. The great and almost incredible extent of the absorbing surface of the lungs, and the facility with which such substances are imbibed and carried at once into the circulation, are strongly illustrated by the most appropriate examples. An exposition of the law of the production and propagation of disease through the medium of an infected atmosphere, is equally afforded, on a small scale, in the sick chamber, the dissecting-room, the church and the church-yard; and, on a large scale, by the rapid advance of an epidemic, as of cholera, influenza, or small-pox, over a nation or a continent.

That the exhalations arising from marshes, bogs, and other undrained localities, constitute a poison chiefly of a vegetable nature, resulting in fevers mostly of an intermittent and remittent type, is equally admitted with the preceding facts; but even this is denied by Professor Dunglison, the disciple of Duchâtelet, in his "Elements of Hygiène," or in other words he asserts that there is no positive proof of the affirmative.

> "It is equally well known," says Dr. Southwood Smith, "that, when the air is infected by particles of decomposing vegetable and animal matter, fevers are produced of various types and different degrees of intensity; that the exhalations arising from marshes, bogs, and other uncultivated and undrained places, constitute a poison chiefly of a vegetable nature, which produces principally fevers of an intermittent or remittent type; and that exhalations accumulated in close, ill-ventilated, and crowded apartments in the confined situations of densely-populated cities, where little attention is paid to the removal of putrefying and excrementitious matters, constitute a poison chiefly of an animal nature, which produces continued fever of the typhoid character. There are situations in which these putrefying matters, aided by heat and other peculiarities of climate, generate a poison so intense and deadly, that a single inspiration of the air in which they are diffused is capable of producing almost instantaneous death; and there are other situations in which a less highly concentrated poison accumulates, the inspiration of which for a few minutes produces a fever capable of destroying life in from two to twelve hours. In dirty and neglected ships, in damp, crowded, and filthy jails, in the crowded wards of ill-ventilated hospitals filled with persons laboring under malignant surgical diseases or bad forms of fever, an atmosphere is generated which cannot be breathed long, even by the most healthy and robust, without producing highly dangerous fever."

The evidence of Dr. Lyon Playfair is also adduced by Mr. Chadwick, part of which is here presented:

> "There are two kinds of changes," he says, "which animal and vegetable

matters undergo, when exposed to certain influences. These are known by the terms of 'decay' and 'putrefaction. Decay, properly so called, is a union of the elements of organic matter with the oxygen of the air; while putrefaction, although generally commencing with decay, is a change or transformation of the elements of the organic body itself, without any necessary union with the oxygen of the air. When decay proceeds in a body without putrefaction, offensive smells are not generated; but if the air in contact with the decaying matter be in any way deficient, the decay passes into putrefaction, and putrid smells arise. Putrid smells are rarely if ever evolved from substances destitute of the element nitrogen.

"Both decaying and putrefying matters are capable of communicating their own state of putrefaction or of decay to any organic matter with which they may come in contact. To take the simplest case, a piece of decayed wood, a decaying orange, or a piece of tainted flesh is capable of causing similar decay or putrefaction in another piece of wood, orange, or flesh. In a similar manner the decaying gases evolved from sewers occasion the putrescence of meat or of vegetables hung in the vicinity of the place from which they escape. But this communication of putrefaction is not confined to dead matter. When tainted meat or putrescent blood-puddings are taken as food, their state of putrefaction is frequently communicated to the bodies of the persons who have used them as food. A disease analogous to rot ensues, and generally terminates fatally. Happily this disease is little known among us, but it is of very frequent occurrence in Germany."

It is further shown by Dr. Southwood Smith that the evidence that exhalations arise from the dead, productive of disease and death, is just as indubitable as the preceding facts.

The exhalations arising from dead bodies in the dissecting room, and from those interred in the vaults of churches and in church-yards, are generally so much diluted by the admixture of atmospheric air, that the health is not commonly affected in a striking manner. This is effected in the dissecting room by ventilation; and notwithstanding this precaution, diarrhœa and general derangement of the digestive organs are very apt to supervene, requiring a temporary residence in the pure air of the country. The same remark applies to the persons licensed to slaughter horses, called knackers, who, notwithstanding their health is maintained seemingly unimpaired for a greater or less time, soon begin to exhibit disordered functions of the nutritive organs, a certain degree of emaciation, and a cadaverous aspect.

The following are the general conclusions deduced by Mr. Chadwick from the preceding facts, which, though very imperfectly presented, are yet more in detail than the limits of this paper would require, were it not that the innocuousness of animal and vegetable exhalations has become a favorite doctrine since the investigations of Duchatelet.

"The injurious effect of the exhalations from the decomposition in question upon the health and life of man is proved by a sufficient number of trustworthy facts;

"That this injurious influence is by no means constant, and depends on varying and not yet sufficiently explained circumstances;

"That this injurious influence is manifest in proportion to the degree of concentration of putrid emanations, especially in confined spaces; and in such cases of concentration the injurious influence is manifest in the production of asphyxia and the sudden and entire extinction of life;

"That, in a state less concentrated, putrid emanations produce various effects on the nerves of less importance, as fainting, nausea, head-ache, languor;

"These emanations, however, if their effect is often repeated, or if the emanations be long applied, produce nervous and putrid fevers; or impart to fevers, which have arisen from other causes, a typhoid or putrid character;

"Apparently they furnish the principal cause of the most developed form of typhus, that is to say, the plague (*Der Bubonenpest*). Besides the products of decomposition, the contagious material may also be active in the emanations arising from dead bodies."

These conclusions, which are firmly established by the most preponderant medical testimony, derive additional importance from their close coincidence with those deduced on the continent by Dr. V. A. Riecke, of Stuttgart. To this Report—"On the Influence of Putrefactive Emanations on the Health of Man," etc.—a prize was awarded by an eminent medical association.

Dr. Riecke, contrary to the opinion of Duchatelet, comes to the conclusion that offensive smells are true warnings of sanitary evils to the population. "Many animals," observes Rudolphi, "are entirely dependent on their sense of smell for finding out food that is not injurious; when their smell is injured, they are easily deceived, and have often fallen a sacrifice to the consequent mistakes." Even in the human frame, the organ of smell may be regarded as the truest sentinel. "Amongst all known smells," says Dr. Riecke, "there is perhaps no one which is so universally, and to such a degree revolting to man, as the smell of animal decomposition. The roughest savage, as well as the most civilized European, fly with equal disgust from a place where the air is infected by it. If an instinct ever can be traced in man, certainly it is in the present case: and is instinct a superfluous monitor exactly in this one case? Can instinct mislead just in this one circumstance? Can it ever be, that the air which fills us with the greatest disgust, is the finest elixir of life, as Desmoulins had the boldness to maintain in one of his official reports?"

It is thus seen that, however much we disagree with M. Parent Duchâtelet in his deductions relative to the effects of putrid animal remains, we award him what he richly deserves, viz., the character of a hygienist of the first distinction. He was decidedly a man of genius; and when such a man gives rein to his imagination, as in the present inquiry, the error that he commits is one that no ordinary man can approach in its wild extravagance. During the last few years, we have been in the habit, when in conversation with a professional brother, of asking the question—"Are you a convert to the modern opinion, that neither animal nor vegetable matter in a state of putrefaction ever is the cause of disease?" The answer is invariably, "No." We have yet to meet with the first medical man, whose common sense observation does not at once pronounce it a ludicrous dogma.

This subject will be more fully illustrated in our next number, when the Report on Interments in Towns will be considered in detail. It is, indeed, doubtful whether any greater physical evils are entailed upon any district than by the conjoined agency of bad drainage and crowded churchyards. As these gases, in the open rural districts, soon intermix with the circumambient air, they become so much diluted that much of their potency is destroyed; but in compact towns, they exert their most deleterious agency; and here they escape observation, besides, in the multitude of villanous smells.

Many of these points have been illustrated in the preceding article, on the Fifth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England. This is especially the case relative to the contagiousness of puerperal fever, and its origin from an animal poison, communicated by nurses and physicians who have been attending on such diseases as gangrene, typhoid erysipelas, and malignant typhus.

But we cannot allow to pass without further notice the extreme views entertained by Dr. Dunglison relative to vegetable malaria. "By some writers on malaria," he says, "it has been ascribed to vegetable putrefaction; by others to aqueous or to animal putrefaction, or to different combinations of these; but we shall attempt to show, that there is no positive—no historical evidence—that any one, or any combination, of these varieties of putrefaction does ever occasion, even in marshy districts where the poison exists in greatest abundance, malarious or miasmatic diseases."

That malaria has its source in organic remains is an opinion, contrary to the one just adduced, abundantly sustained by the statistics of the United States Army, extending over our whole domain, and comprising a period of twenty years. The observation, that there is a connection between organic remains and what are designated as malarial diseases, finds undeniable proof within the most circumscribed limits. We refer to the well known fact that the resident of our southern low-lands is peculiarly subject to malarial diseases along the margins of streams, lakes, and marshes, while he is exempt in the adjacent sandy pine woods. The Seminole Indian in Florida always adopted the course of living, in the winter, on the fertile lakes and streams, and retiring, on the approach of hot weather, to the barren sand of the pine woods. Evidence of this kind we have at hand in the greatest abundance, as detailed in our work on the "Climate of the United States and its Endemic Influences." Even in the malarious region of the great lakes, those posts which have a dry and sandy soil, as Forts Brady and Mackinac, are almost exempt from these diseases; and so upon the Atlantic plain, which partakes of the same malarious character, a similar exemption is found at Forts Monroe and Moultrie, each situated on a sandy tongue of sea coast.

Every captain on our great lakes knows that, if he anchors his vessel on a marshy part of the coast, during the hot season, his men will be affected with intermittent or remittent fever; and equally well does he know, that as soon as he sails from such anchorage toward the centre of the lake, or to some other port which has a bold shore, and which is consequently free from decaying vegetables, will new cases immediately cease to appear.

These observations, we opine, have somewhat the character of "*positive*" or "*historical evidence*" in favor of the vegetable origin of malaria. But this most obvious deduction, which is now regarded by all the world as a truism, can be further confirmed by showing how malarial diseases are influenced by season and latitude.

Taking the averages of the United States, as exhibited in the following table, which shows the relative influence of the seasons upon intermitting and remitting fever, diarrhœa, and dysentery, the influence of temperature, which is the great agent, in connection with moisture, in the production of vegetable putrefaction, is strikingly manifested.

The following are the ratios of cases treated per 1000 of mean strength:

	1st quarter of year.	2d quarter.	3d quarter.	4th quarter,	Annual result.
Intermitting Fever,..............	45	75	156	93	369
Remitting Fever,.................	7	15	58	22	102
Diarrhœa and Dysentery,.........	54	107	166	75	402

It is here seen that among the ratios of disease in each quarter which have a very marked equality, that of the third quarter, as regards intermitting fever, diarrhœa, and dysentery, is more than three-fold higher than that of the first, and more than twice as high as that of the fourth quarter; and this difference is still more marked, as respects remitting fever. As these malarious diseases thus augment and decrease in ratio with the increasing and decreasing temperature of the seasons, there would seem to be here some *positive* and *historical evidence*, that malaria, in view of this remarkable agency of heat, has some connection with vegetable decomposition.

This modification of the law of the prevalence of malarial disease produced by the agency of the different temperature of the seasons, we will now show obtains equally as regards the increasing and decreasing temperature consequent on decreasing and increasing latitude.

Regions of the United States.	Ratio of cases treated annually per 1000 of mean strength.		
	Intermittent Fever.	Remittent Fever.	Diarrhœa and Dysentery.
Posts on the coast of New England, .	36	26	170
" " northern chain of Lakes, .	193	33	253
Northern Posts remote from the ocean and inland seas, ...	151	24	305
Coast from Delaware Bay to Savannah, .	370	181	455
South-western stations, ...	747	180	597
Posts on the lower Mississippi, . .	385	196	456
Posts in the peninsula of East Florida, .	520	102	495
Average,	368	101	405

We thus see an equally marked influence of temperature, the ratio augmenting with the decrease of latitude, and *vice versâ*, upon the development of malarial diseases. This, however, is a general law, which is modified by local circumstances, as was seen in the cases already adduced relative to adjacent localities in our southern regions, the one being characterized by sterility and the other by an abundance of organic remains. The agency of these local causes, dependent on the nature of soil and of geological formation, we find strongly manifested on the same parallels in comparing the region of the great lakes with that of the Atlantic coast. At our military posts in the former region, the ratio of intermittent fever is five or six-fold higher than at the posts along the coast of New England; and this same contrast between Canada, on the one hand, and Nova Scotia and New Brunswick on the other, is shown by the British army statistics. Local causes here evidently make all the difference, the one soil having more organic remains than the other, and being, at the same time, more favorable to marshy formations. New England, for instance, has a primitive geological formation with a sandy and sterile soil, which is consequently comparatively destitute of organic remains, while the region of the great lakes, on the other hand, has not only a geological structure of secondary origin, but mostly a deep, rich, and humid alluvial superstratum. In the former region, as the soil is of a coarse and gravelly nature, it is percolated by the rain which thus flows off, favored still more by the undulating surface; but if, on the other hand, the geological structure consists of tertiary and cretaceous secondary deposits, with a deep, rich, clayey, and absorbent soil, more especially if low and flat with an argillaceous substratum impervious to water, it will yield to evaporation nearly all the rain which falls upon it, thus carrying into the atmosphere a portion of decayed animal and vegetable matter (the decomposition of which its moisture promoted), or perhaps some new resulting compound.

These laws we have traced throughout every region of the United States, as may be seen in our work on the climate of the United States, before cited.

Were any additional testimony requisite to prove the deleterious agency of organic matter undergoing decomposition, it could be easily found in the preceding article on the Fifth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England. As an evidence of the atmospheric impurities due to this cause, we may quote the following remark on the effects of drainage on human life, from the *Lond. Med. Times:*

> "The Rev. Professor Buckland, at a public meeting held in Oxford last week, said that, in the parish of St. Margaret, Leicester, containing 22,000 inhabitants, it appeared that one portion of it was effectually drained, some parts but partially so, and others not at all. In the latter, the average duration of life is thirteen years and a half, while in the same parish, where the drainage is only partial, the average is twenty-two years and a half, thereby showing the frightful effects of a bad atmosphere."

The existence of organic matter in the atmosphere, in proportion to the density of population, is no longer a disputed question; and, indeed, Liebig has obtained from such atmospheres, ammonia, which is a product of the putrefaction of animal matter. It is proved conclusively in the last Registration of England, that, other causes being equal, an increase of density in population always implies an increase of mortality; and it is happily remarked by the ingenious Mr. Farr, as is seen on a preceding page, in view of the difficulties that attend sanatory inquiries, that "the zealous Parent Duchâtelet's methods would not have detected great differences in the mortality; and he might almost as well have attempted to guess by his sensations the mean temperature of Paris, as to pronounce an opinion on the duration of the people's lives employed in Montfauçon; yet his paper has been cited as decisive on the question of the influence of putrefying animal matter!!" The high mortality of towns, compared with rural districts, is beyond all doubt ascribable to the circumstance that, in the former condition, people live in an atmosphere polluted with decomposing matter of vegetable and animal origin.

Art. IX.—*A Treatise on Operative Surgery; comprising a Description of the various Processes of the Art, including all the new Operations; exhibiting the State of Surgical Science in its present advanced Condition—with eighty plates, containing* 486 *separate Illustrations.* By Joseph Pancoast, M. D., Prof. of General, Descriptive, and Surgical Anatomy, in Jefferson College, Philadelphia; Lecturer on Clinical Surgery; one of the attending Surgeons at the Philadelphia Hospital, etc. Philadelphia: Carey & Hart, 1844, quarto, pp. 380.

This excellent work is constructed on the model of the French Surgical works by Velpeau & Malgaigne; and so far as the English language is concerned, we are proud, as an American, to say that, of its kind, it has no superior.

The leading object of the writer of this ponderous tome has been to illustrate, by means of accurate drawings, the operations of Surgery, so as to render "the processes for their performance, intelligible to the student," and at the same time to produce a work "that shall represent, so far as its limits will allow, the operative surgery of the day."

In this portraiture of the actual state of surgical science, we will accompany our author at least part of the way. The whole subject is divided into several parts; I. Elementary and Minor Operations; II. General Operations, or those practised with reference to one or more particular Tissues; III. Special Operations, or those which are practised upon complex Organs in particular Regions of the Body; and IV. Plastic and Subcutaneous Operations.

Under the first head of *elementary and minor operations* are considered, the division of parts with the bistoury and scissors, division by ligature, phlebotomy, arteriotomy, cauterization, re-union by suture, setons, issues, moxa, acupuncturation, and the means of arresting hemorrhage before, during, and after operations.

These various subjects are all well described, both in language and by means of wood-cut illustrations. We have nothing to remark especially upon this portion of the work, save perhaps as regards one of the modes of arresting arterial hemorrhage after operations. "Occasionally," says Prof. P., "we find the large artery after amputation so ossified in its structure, as not to close without crushing under the loop. Under such circumstances I have succeeded satisfactorily by plugging the orifice with a piece of linen compress and tying the vessel over it; when the ligature becomes detached, it will bring away the plug." Now this is certainly a very rare occurrence, as the cellular coat of the artery is very seldom ossified; and even when it does occur, the mode here recommended of plugging the vessel we look upon as of doubtful propriety.

In concluding the chapter on Minor Surgery, the author refers the reader, as regards "the use of refrigerants, astringents, styptics, absorbents, and cauterizing substances for the arrestation of capillary bleeding, to the usual treatises on Surgery." Now, in our own humble opinion, we conceive that this is the very spot where such descriptions ought to have found a place, more especially as the chapter is devoted to minor surgery, and as the author professes to present surgery as it is at the present day. Besides, no one could do it better than he.

With Part II., devoted to general operations, comprehending those which are practised upon the veins, those for ligature of the trunks of the arteries, those for diseases of the bones and joints, and amputation of the limbs, we are equally well pleased.

Speaking of aneurismal needles, Prof. P. gives deserved credit to Prof. Gibson of the University of Pennsylvania for the invention of an admirable instrument for securing deep-seated vessels, on the plan of Bellocq's tube. Our author prefers that of Graefe, which is curved on the side, and that of Physick, consisting of a blunt-pointed needle, held in the artery forceps. With us, in the city of New York, the needle of Sir Philip Crampton is very generally used.

As a specimen of Prof. P.'s mode of describing operations, we will here introduce his account of the ligature of the Arteria Innominata:

"*Surgical Anatomy.*—The arteria innominata is, after the aorta and pulmonary arteries, the largest arterial trunk in the body. It is given off from the top of the arch of the aorta to the left of the middle part of the upper bone of the sternum, and a little more than half an inch from its upper margin. It passes from this place obliquely upwards and outwards, to a point immediately behind the sterno-clavicular articulation of the right side, at the upper margin of which it divides into the right primitive carotid and right subclavian. In its route it traverses the superior thoracic fascia of Cooper (which is an important means of protection to the chest), about four lines below its place of bifurcation. The trunk of this vessel is usually found from an inch and a quarter to an inch and a half long. Its diameter, in a well developed adult, is about half an inch. The place of its division is deep behind the sternum, from half an inch to three inches from the inner face of the top of that bone. In front, the vessel is separated from the sterno-hyoid and thyroid muscles by some loose cellular tissue, in which are lodged many of the inferior thyroid veins that discharge into the left subclavian. Between these and the bone lies one part of great importance, the transverse vein (left vena innominata), which passes over from the left to the right side, but so near the root of the vessel, however, as to be out of the way of the operation.

"When the head is thrown forcibly backwards, and to the left side, the arteria innominata is drawn upwards, so that its point of bifurcation, as seen in Plate 8, fig. 1, is considerably above the sterno-clavicular articulation. *Posteriorly*, it crosses obliquely the root of the trachea. On its *inner* face is the left carotid, and in this angle of divergence between the two vessels, projects the trachea. *Externally*, it rests for the greater part of its course, upon the pleura covering the upper surface of the right lung. The right subclavian and right jugular vein, and the common trunk they form, as well as the pneumogastric nerve, are placed so much on the outer side of the artery at the point where it is tied, as not to be endangered in the operation, unless the surgeon errs by hunting too far outwards for the vessel, which, it is to be recollected, is lodged between the right margin of the trachea and the right sterno-clavicular articulation, immediately behind the sternal origin of the sterno-cleido-mastoid.

"*Anomalies.*—This great trunk is rarely seen to deviate from the usual description. It occasionally, however, varies in regard to its direction and length, and has been found altogether wanting. I have in my cabinet several specimens of transposition of the great vessels coming off from the arch of the aorta. In one, the right subclavian originates on the left side, and crosses to the right between the trachea and œsophagus. In another having the same origin, it passes behind both these tubes. In a third, the two carotids spring from a common trunk, etc.

"*Anastomosis.*—Spontaneous aneurism of the arteria innominata itself, has many times been met with, and instances have been noted by two observers,* where it was found that one or both of the branches that arise from it, obliterated after death. The anastomosing branches that may restore under such circumstances the circulation to the right side of the head and neck, are the branches of the left vertebral and carotid; and the thyroid, cervical, intercostal and internal mammary of the two sides, anastomose together so as to be able to return the blood to the right arm by the way of the supra and sub-scapular, external thoracic and circumflex vessels The fact of its accidental obliteration serves in a measure to show the *possibility* of a successful result in the case of its being tied. The honor of having first peformed this most serious operation, is due to Professor Mott, of the University of the City of New York.

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* Pelletan and Dr. Wm. Darrach.

"*Operation. Process of Mott.* (Plate 8, fig. 1.)—The patient is placed in the recumbent position, with the neck slightly flexed and supported with a pillow, and the face turned to the opposite side in order to relax the sterno-cleido-mastoid muscle. The surgeon, standing upon the right of the patient, makes a transverse incision of three inches in length, commencing at the median line of the neck, and extended outwards parallel with, but half an inch above, the upper border of the clavicle. Another incision of the same length is made along the internal border of the sterno-cleido-mastoid, terminating at the commencement of the first. The platysma muscle and the superficial fascia are next carefully opened so as to expose the sternal portion of the sterno-cleido-mastoid, which is to be divided on the grooved director previously passed behind it. The inner two-thirds of the clavicular origin of the muscle is to be cut in a similar manner; the muscle is then to be reversed upwards and outwards as seen in Plate 8. The sterno-hyoid and thyroid muscles are now to be divided, after having been cautiously raised on the director. The surgeon then opens with the finger or the director the cellular tissue in the direction of the vessel, carefully avoiding the right internal jugular vein, which is found a quarter of an inch to its outer side, and the inferior thyroid veins, which usually cover it in front, and are drawn off laterally. The finger falls first upon the primitive carotid near its root. The surgeon traces this vessel downward, and cautiously tears the cellular tissue till the innominata is exposed. The vessel in question being now discovered, it is to be separated on its outer or right margin from the vena innominata of the same side with the end of the director, and then pressing off lightly from it the vein and the recurrent laryngeal nerve, the ligature is carried with a curved aneurismal needle from without inwards around the vessel.

"In operations upon the subject, I have found it more convenient to make the longitudinal incision first, as the skin becomes relaxed after the transverse one is made. Before attempting to pass the ligature, I find it also best to raise with the forceps and divide on the front of the vessel a dense cellular layer, which is an extension downwards of the deep-seated fascia of the neck. Professor Mott secured the vessel with the ordinary silk ligature.

"Several other processes have been devised for the ligature of this artery. Graefe, who followed Dr. Mott in the operation, made only a longitudinal incision, along the inner side of the sterno-cleido-mastoid, and partly with his finger, and partly with the handle of the scalpel, separated the parts down to the carotid near its place of origin. Following this vessel, he reached the innominata, which he detached behind the upper part of the sternum from its sheath, so as to get his finger around it. M. Manec directs only the transverse incision to be made, and through that proceeds to isolate the vessel.

"*Process of King.*—This, as last modified, consists of an oblique incision, carried inwards and upwards from the right sterno-clavicular articulation over the supra-sternal fossa, to the left sterno-cleido-mastoid muscle, the surgeon standing on the left side. The artery is to be sought for between the trachea and the sterno-hyoid muscles, and surrounded with a ligature passed from without inwards. This process, though brilliant in its execution on the dead body, must be attended with great difficulty in its application to the living, from the contraction of muscles and the effusion of blood in so narrow a wound. That of Mott is to be preferred to all, as the most judicious in its plan, and likely to be most successful, as leaving less to hazard in the delicate manipulations required. In each of the several instances in which the operation has as yet been performed, the patient sunk from hemorrhage between the periods of nineteen and sixty days; and it is yet a question whether the great size and depth of the artery, its proximity to the heart, and probable pathological condition in aneurisms of the carotid and subclavian, do not present such difficulties in regard to the formation of a clot on the side next the heart by the time the ligature separates, as to offer insurmountable obstacles to its successful performance. In Manec's experiments upon the inferior animals, in which the effusion of coagulable lymph takes place with greater facility than in man, the safe obliteration of the vessel, even when previously healthy, occurred but twice in four times. Still, circumstances may arise to justify its performance, especially when it is considered that the only alternatives presented are little to be relied on, viz., the securing of the carotid or subclavian on the distal side of the tumor after the methods of Brasdor and Wardrop, or the uncertain process of Valsalva."

This operation has been since performed, or at least attempted, more frequently than the profession generally are aware of, as many of the cases have never been published to the world; as, for instance, that of Porter in Dublin, and by Dr. Hoffman of this city.

As regards the tying of the common carotid, Dr. P. remarks:

"The ligature of this vessel is rarely practised now, except for the cure of aneurism of the trunk or some of its branches, or in extensive wounds of the face and neck. In former times, it was much employed as a preparatory measure in resection of the jaws, removal of tumors from the face, and ablation of the parotid gland. But it has been found by experience, that secondary hemorrhage is apt to follow from the return of blood into the divided vessels, and that it is better to secure them as they spring, as the loss of blood may be temporarily checked so as to give time to find the divided branch, by pressure of the lower part of the carotid against the spine, which is sufficiently superficial for that purpose. Both carotids have been obstructed by ligature in the same individual. Professor Mott tied them nearly simultaneously in a case of desperate necessity. The patient died in the course of twenty-four hours, and it is questionable whether the human brain could sustain the sudden deprivation of two such columns of blood as those sent up by the carotids. Where some interval of time has elapsed between the operations for ligature of the two vessels, the result has been more successful. The artery may be tied at two points, either above or below the omo-hyoid muscle."

The "*nearly simultaneous*" tying of both carotids in the same individual by Dr. Mott, consisted of a single operation, without an interval perhaps of five minutes; and the case proved fatal in a few hours.

The following account of Dr. Mott's case, given by an eye-witness, taken from the New York Journal of Medicine and Surgery, Vol. III., p. 162, may be relied upon as correct:

"In the memorable case in which Dr. Mott took up both vessels at one sitting, the functions of the brain were instantly and profoundly affected. We have a lively recollection of the case; the application of the ligature to the right carotid produced no sensible effect; but on tightening the ligature on the second vessel, the patient, after a sudden convulsive movement, swooned away. The ligature was loosened, and he revived; it was tightened a second time, and again the same symptoms ensued, and continued until the ligature was loosened a second time. After a few moments' delay, it was tightened for the third time, and again the patient swooned; but after a few minutes, he revived sufficiently to open his eyes; the ligature was now permanently secured,—the patient never rallied. He continued for twelve or fourteen hours in a condition of profound cerebral oppression, and then expired."

Upon ligature of the Abdominal Aorta, Dr. P. remarks as follows:

> "Since the attention of surgeons has been called to this subject, more than forty cases have been reported of contraction or accidental obliteration of the aorta from the pressure of tumors or other causes, all of which tend to prove the possibility, as before observed, of a return of the circulation to the lower extremities after the obliteration of the lumbar portion of this vessel. Upon these facts has been founded the hope of success, in cases admitting of no other chances of relief, in cutting down upon and tying this important trunk, rather than upon the results of experiments on dogs, whose tenacity of life surpasses that of man. In the three cases in which it has been tied on the living subject, the issue has not justified the boldness of the proceeding, and it is very questionable whether any case could occur that would fully sanction the step. Apart from the great size of the vessel, we run the risk of finding it diseased in aneurism of the primitive iliac, and of many of the collateral vessels being obliterated by the tumor. If there be wound of the iliac arteries of much size, time would not be afforded for the operation; and if it be a puncture merely, the surgeon could not satisfy himself sufficiently well in regard to the origin of the hemorrhage to justify so desperate a proceeding. Gangrene, from want of a return of the circulation to the lower extremities, peritonitis, and hemorrhage, are the accidents to be apprehended in ligature of the aorta. The first operation of this kind was done by Sir A. Cooper, in 1817, and his patient died at the end of forty hours. Mr. James, of Exeter, operated in 1829, and the patient sunk three hours after. Mr. Murray performed a similar operation at the Cape of Good Hope in 1834, and his patient died at the end of twenty-three hours."

It may be added that the Journals, within a year, have had an account of this operation, done in South America, in Peru or Brazil.

In this same Part, under the head of "*Operations for Diseases of the Bones and Joints*," the subject of Hydarthrosis or articular dropsy, is considered, to which our attention just now is directed, from the circumstance that there is found, among our original communications of this Number, an interesting paper on the same, or rather a kindred, disease. Prof. P. thus describes the operation:

> "All therapeutic measures having failed to cause a removal of the dropsical accumulation, we may discharge it either by incision with a bistoury, or puncture with a trocar. The great object in the operation is to avoid the entry of air, which might provoke irritation in the cavity of the joint, and give rise either to suppurative inflammation of the serous membrane, or even ulceration of the articular surfaces. The operation is, therefore, not unattended with danger, and is only to be undertaken when the patient is not able, by the aid of a compressing bandage, to serve himself with the limb. The bistoury is to be preferred to the trocar, as the incision it makes is not more irritating than the puncture with the latter instrument, and allows better the discharge of the flaky pus sometimes mixed with the serum, or of a movable cartilage, the presence of which is sometimes discerned only after the fluid has in part escaped.
>
> "Select the most depending portion of the tumor, and if possible, at the same time, the most prominent. If it be the knee, and seldom any other joint requires the operation, the inner portion is selected, as the limb can be so turned as to make it dependent. The skin being drawn to one side, in order to prevent any parallelism between the inner and outer portions of the wound, the bistoury is to be passed in perpendicularly to the surface, and the incision moderately enlarged as it is withdrawn. After the discharge of the fluid, a simple dressing is to be laid over the wound, and the limb, which is to be kept for a couple of weeks or

more perfectly at rest, covered with a compress wetted with Goulard's or some other resolvent lotion. The fluid is so soon reproduced, that Boyer directs at the end of the twenty-four hours to reopen the incision and discharge it anew. If the lips are merely slightly agglutinated he would separate them with a director, or with a bistoury if the union be more firm. If there is a probability of having to make several successive punctures, he directs to keep the passage open, by introducing through it a strip of linen or some charpie. But I have preferred in my own practice, to this constant presence of a foreign body in the cavity of the joint, an occasional oblique puncture under a valvular fold of the skin; resorting to gentle compression after each operation, in order to overcome the tendency to a re-accumulation of the fluid. Flocculent portions of pus or decayed membranes may be occasionally washed out with advantage by emollient injections, after which an injection of the same sort allowed to remain after the manner of Recamier, it is said has been attended with advantage.

"M. Malgaigne prefers the use of the trocar, and, contrary to common experience, asserts that the puncture of the articulations is an operation perfectly innocent. He has operated, he observes, six times in this manner for dropsy of the knee joint without the least inconvenience. He only regards it as insufficient of itself for a cure, requiring in addition the use of compression, counter-irritation, and the various other therapeutic means to effect radical relief. However, there is always great reason to fear that the paracentesis of a joint will be followed by anchylosis, by suppuration from its cavity, by destruction of the cartilages, or caries of the bones. Weak iodine injections, after a partial removal of the fluid by tapping, have been experimentally employed in this affection, by M. Bonnet, of Lyons."

We think we are right in saying that the practice of puncturing and injecting joints was resorted to in this country before its adoption in Europe. The late Dr. Hubbard, of New Haven, who had been for many years in the habit of doing both, deserves much more credit than Velpeau, Malgaigne, or Bonnet.

The method of forming, in anchylosis, an artificial joint, for which the world is indebted to the ingenuity of Dr. John Rhea Barton, of Philadelphia, has been thus far applied but to a single articulation—that of the hip-joint. Barton's process in case of anchylosis of the hip, is thus described by Dr. P.:

"The ingenious idea of remedying this deformity by the establishment of an artificial joint, was first practised by Dr. Barton in 1826. A similar operation was repeated four years subsequently by Dr. J. Kearney Rogers, of New York; the two constituting the only instances in which it has yet been attempted on the living subject. The patient of Dr. Barton was a young man twenty-one years of age, in whom the thigh was held immovably bent at a right angle with the pelvis, and the foot turned in rotation inwards. A crucial incision was made over the projecting portion of the trochanter major, the vertical division of which was seven inches in length, and the transverse five. The four laminæ thus formed were dissected and turned back, and the fascia freely opened. The muscular fibres were then detached from over the trochanter by turning the scalpel sideways, so as to allow the two index fingers to be passed freely round the neck of the femur, till they met on the opposite side. With a strong straight saw the bone was then nearly divided through the upper part of the great trochanter and part of the neck of the bone. The operation lasted but seven minutes, and no artery was opened that required to be tied. The limb was then drawn to its proper position, when the undivided portion of the bone separated with a snap. The wound was closed with a few points of suture, and the extremity secured in the fracture apparatus of Desault.*

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* North Amer. Med and Surg. Journal, April, 1827.

> "On the twentieth day after the operation the inflammatory symptoms had in a great measure subsided; some slight passive movements were then made with the limb, in directions natural to the healthy joint, which were cautiously repeated from time to time. By the sixtieth day the wound was completely healed; the patient was able to stand erect with the aid of crutches, and could advance his limb exclusively by muscular exertion. At the end of four months he was able to walk without apparent lameness, and all the movements of the limb were executed without pain. The foot could be carried twenty-two inches forward, twenty-six backward, and twenty outwards, and could be rotated inwards to the extent of six. The patient enjoyed the use of his artificial joint for a period of six years, at the end of which period, from causes attributable to intemperance and repeated falls upon the hip, the new joint became permanently anchylosed.
>
> "The operation of Dr. Rogers was equally successful, and his patient left the hospital at the end of four months, apparently with a perfect use of the new joint, as he could walk with ease by the assistance of a cane. Of the ultimate result in this case—whether or not the new joint in the end became anchylosed, as in the case of Dr. Barton, the profession has not been informed. In consequence of the shortening of the limb of the opposite side from fracture, Dr. Rogers, instead of making a simple section, removed a wedge-shaped portion of the bone, in order to render the relative length of the two limbs more equal.
>
> "In place of dividing the bone after section of the soft parts, as above described, it has been proposed by M. Louvrier, to produce directly by mechanical means a fracture of the neck of the thigh bone, a measure which he believes less dangerous than the former, and affording equal facilities for the formation of a false joint But provided it were possible to succeed in fracturing the bone at the desired point, there would be such danger by this method of doing violence to the surrounding parts, that it can offer no probable advantages to cause it to be compared to the neat and methodical section of the bone according to the method of Dr. Barton. It would be rather more easy to divide the femur below the trochanter, but by this measure an all-important object would be lost—that of obtaining a new and solid articulation upon the pelvic bones, so as to re-establish the functions of the limb with the least possible shortening."

In Dr. Rogers' case we learn that the limb ultimately again became anchylosed, but the operation resulted in manifest improvement to the patient.

Included in this same Part, a variety of highly important and interesting subjects is brought under notice and treated of according to the latest improvements in surgery. But it strikes us that there is wanting a section on the suppuration of bones and the operations called for to prevent caries and necrosis. Thus Nathan Smith's process for perforating the bone and letting out the purulent fluid, might have been introduced; and something might also have been said in regard to nodes and external suppuration.

Upon *resection of the Upper Jaw* our author is more than ordinarily complete in his details.

> "In most instances," he says, "patients afflicted with malignant tumors of the jaws are unwilling to submit to an operation apparently so fearful as resection, until the upper maxilla of one side has become so much involved, as to require to be wholly taken away, and the other bones of the face so extensively implicated in the affection, that the saw and the bistoury will not alone suffice—the cutting forceps, the gouge and mallet, or the incandescent iron, being required to complete the extirpation, without regard to the anatomical connections of the bones.
>
> "*General Rules.*—There are, however, certain general rules for resection, as applied to any portion of the bones of the face, which must be constantly ob-

> served, as far as the nature of the lesion will allow. 1. To avoid injuring the parotid duct, or the branches of the portia dura nerve which give motion to the muscles of the face, by opening the soft parts in a direction as much as possible parallel with their course. 2. To protect from unnecessary injury the facial artery and the infraorbital and mental nerves. 3. To carry the line of incision or amputation in a part of the bone which is perfectly free from enlargement or other indication of unhealthy action. 4. To tie the arteries, which are commonly small, as they are divided and come into view, arresting the hemorrhage if it be profuse, until the ligature can be applied, by pressure on the common carotid or the temporal artery, and using the actual cautery to suppress capillary bleeding, as well as to destroy any diseased portion that cannot be reached by cutting instruments.
>
> "The great improvement of modern surgery, in reference to the malignant growths of the upper maxillary bone, consists in its amputation entire at its points of articulation, instead of attempting to cut out with saws, forceps and gouges, the diseased mass alone. If, by so doing, we get rid of the whole site of the disease, the prospect of the return is infinitely less than when we have to attack in addition the palate, unguis, and malar bones."

But it is obvious enough that the rule laid down in the last paragraph, as the great improvement of modern surgery, is not always applicable.

Credit ought to have been given to Prof. A. H. Stevens, of this city, for his operation of extirpating the upper jaw in 1823, which was the *first* of the kind in this country. The patient, who recovered, is still living, and he is not only a good-looking man but positively a remarkably handsome one. He is a member of the bar of this city. This operation was performed according to the old method; and an account of it is to be found in the Appendix to Sterling's translation of Velpeau's Surgical Anatomy, New York, 1830.

Dr. S. was also the first to perform, in this country, the complete extirpation of the upper jaw at the articulation, according to Gensoul's method. This last operation was done perhaps a year before Dr. Warren's, at Boston.

Part III. Special Operations, under which are included those which are practised upon complex organs in particular regions of the body, viz., upon the eye, the ear, the nose, the mouth and its accessory organs, the neck, the thorax, the abdomen, the rectum and anus, and the genito-urinary organs.

The subject of salivary fistula, among the host of diseases marshalled under this Part, is well illustrated. The author remarks as follows:

> "The facility and success of the treatment, as well as the choice of the method for the cure of a fistula of this duct, depends much on the fact of the orifice being the result of a wound or a recent ulcer; or if it be of long standing, whether the skin is healthy or diseased at its margin, whether the passage of the duct on the inner side of the fistula is opened or closed, or in fine, whether the fistula is situated anteriorly or posteriorly to the edge of the masseter.
>
> "The various processes for the treatment of the fistula, may be ranged into four methods, according to the objects they are designed to fulfil, viz.: 1. Those for cicatrizing the fistulous orifice. 2. For dilating the inner portion of the natural duct, which in a fistula of long standing is usually found diminished in its diameter, or entirely obliterated. 3. For establishing a new opening into the mouth, or forming a new portion of the canal, where a part of the old has been completely obliterated. 4. For producing atrophy of the parotid gland, when all measures fail to restore a passage for its secretions."

But as these fistulæ, whether the result of ulceration, incision, or operations for extirpating tumors, are known sometimes to close spontaneously, they should never be interfered with surgically until nature has had some months' time to try what she can effect.

Part IV., comprising Plastic and Subcutaneous Operations, concludes the volume. Under this head are considered: "1. The subject of plastic operations, as applied to the cure of deformities arising from the loss of substance, and 2. that of the subcutaneous division of muscles, tendons, and fascia, for the distortions which arise from the retraction or shortening of these parts."

Plastic Surgery, which was scarcely known two or three years ago, as an art, save in the Oriental nations, and more recently in Italy, and next in France and Germany, is now one of the most important departments of surgery. Using the word, *Plastic*, as the generic term, various names are now in use expressive of its particular application. We have rhinoplasty, blephoroplasty, cheiloplasty, genoplasty, mloplasty, uranoplasty, palatoplasty, bronchoplasty, posthioplasty, chalinoplasty, oscheoplasty, urethroplasty. The meaning of these words is sufficiently obvious without explanation, *rhinoplasty* referring to the nose, *cheiloplasty* to the lips, *chalinoplasty* to the frenum in case it has been lost by disease, *oscheoplasty* to the restoration of a scrotum when the testicle becomes exposed:

> "In cases where the scrotum has been destroyed by sloughing," says Prof. P., "so as to expose the testicle, nature alone is capable of producing an adventitious covering. But in those instances in which it is necessary to remove the scrotum in consequence of its enormous enlargement from elephantiasis, and the testicles (which in these cases are often found healthy) are preserved, flaps may be taken from the region of the thigh and groin, to form the new scrotal pouch and cover any portion of the penis that has been left exposed."

But other terms have been employed by different writers in the same generic sense as the words *Plastic Surgery* are used. Thus M. Blandin employs that of *Autoplasty*, and M. Velpeau, *Anaplasty;* and by several of the German writers, *Morioplasty* is used.

This is a subject upon which our author is essentially at home, having executed successfully many of the most difficult operations in this department of surgery; and in view of what has been accomplished within a few years, he might justly have said, in the celebrated words of the Latin bard, "quorum pars fui."

We shall not follow our author any further in these multiplied plastic and subcutaneous operations. Our own opinion is, that they have been carried to an unwarrantable extreme, and that the time has arrived when some experienced orthopedist should take up the subject and separate the wheat from the chaff. Who now hears of the operation of dividing the genio-glossi muscle for stammering, which, a short year ago, was hailed as one of the most brilliant triumphs of modern surgery? The star of orthopedy is, at this time, decidedly in the descendant.

Upon the whole, our opinion of this work, as the reader will have perceived from the preceding remarks, is strongly favorable, believing that the author has done a public service in its execution. We have not referred particularly to the author's original operations and suggestions, many of which are ingenious, and some of them highly important. We will here introduce, in conclusion, by way of showing Prof. P.'s tact in this way, the following description of his mode of applying injection for the radical cure of hernia:

"This process, as employed by the author, is as follows: The contents of the hernia must be completely returned into the cavity of the abdomen—for the process is only appropriate to cases of reducible hernia, and those which are of large size. The apparatus required is a minute trocar and canula, a small graduated syringe, capable of containing a drachm of fluid, well fitted to the end of the canula, and a good-fitting truss for the purpose of making compression. The patient is to be placed on his back; the viscera are then to be reduced and the truss applied over the external ring for the purpose of keeping them up, as well as to prevent the possibility of the small quantity of fluid thrown in, from getting into the cavity of the abdomen. The surgeon then presses with the finger at the external ring so as to displace the cord inwards and bring the pulpy end of the finger on the spine of the pubis. At the outer side of the finger he now enters with a drilling motion the trocar and canula, till he feels the point strike the horizontal portion of the pubis just to the inner side of the spine of that bone. The point is then to be slightly retracted and turned upwards or downwards; the instrument is then to be further introduced till the point moves freely in all directions, showing it to be fairly lodged in the cavity of the sac. The point of the instrument should now be turned into the inguinal canal, for the purpose of scarifying freely the inner surface of the upper part of the sac, as well as that just below the internal ring. The trocar is now to be withdrawn, and the surgeon, again ascertaining that the canula has not been displaced from the cavity of the sac, throws in slowly and cautiously with the syringe, which should be held nearly vertical, half a drachm of Lugol's solution of iodine, or half a drachm of the tincture of cantharides, which should be lodged as nearly as may be at the orifice of the external ring The canula is now to be removed, and the operation is completed. A compress should be laid above the upper margin of the external ring, pressed down firmly as with the finger, and the truss slid down upon it. The patient is to be kept from changing his position during the application of the truss, and should be confined for a week or ten days to his bed, with his thighs and thorax flexed, keeping up steadily as much pressure with the truss as can be borne without increasing the pain, in order to prevent the viscera from descending and breaking up the new adhesions while they are yet in the forming state, or avoiding the risk of their becoming strangulated or being rendered irreducible by the lymph effused into the cavity of the sac.

"The author has practised this operation in thirteen different cases, in but one of which was there any peritoneal soreness developed that excited the slightest apprehension, and in this case it subsided under the application of leeches and fomentations. In several of these a single operation appeared to be perfectly successful. In others—where the sac was larger, or the patient was less careful in keeping the truss steadily applied during the first week, or from a cautiousness in introducing in the first cases a more limited amount of fluid—the effect was merely to narrow the sac, rendering a repetition of the process necessary for the cure. Of the permanency of the cure, during *several years after the operation*, the author is unable to speak, most of the patients operated on being temporary residents of the Philadelphia Hospital, and passing after a few months beyond the reach of inquiry. While under the cognizance of the author, they were employed without a truss as laborers on the farm attached to the institution, and in no one of the cases, during this period, had the hernial tumor recurred. It would, however, be but a proper measure of precaution to direct the truss to be worn subsequently for several months, in order to confirm the cure.

"The greater number of these operations were performed by the author eight years ago, before classes of students at the Philadelphia Hospital, but as he was able to trace the future history of the cases but for a few months only, they were not deemed of sufficient importance for publication. Very recently M. Velpeau has published a process almost precisely the same as that just described."

We have also to add that, quite recently, a youthful son of Æsculapius from Yankee land was here in New York talking largely of the wonderful cures produced by the same mode of operation, and claiming it as an *original* discovery. It may be well to add that this young M. D. was one of Dr. Pancoast's own manufacture, in other words, that he is a graduate of Jefferson Medical College.

ART. X.—*A Practical Treatise on Midwifery.* By M. CHAILLY, Doctor of Medicine and Ex-Chief of the Obstetrical Clinique of the Faculty of Paris, Professor of Midwifery, Member of the Society of Medical Emulation, &c., &c. Illustrated with 216 wood-cuts. Translated from the French, and edited by GUNNING S. BEDFORD, A.M., M.D., Professor of Midwifery and the Diseases of Women and Children in the University of New York. 8vo. pp. 530. Harper and Brothers. New York: 1844. [Second Notice.]*

A BRIEF notice of this work appeared in this journal while it was passing through the press, and we recur to it again in view of its meritorious claims upon the profession, but especially because of a meager and ill-omened criticism which has since appeared in the "Medical Examiner" of

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* [We give place to the accompanying notice, signed by initials which will be readily recognized, from a sense of the most imperious duty. That the review of the Philadelphia "Medical Examiner" is ill-natured and unjust, and prompted both by sectional jealousy and personal interest, will surely not be denied by any unprejudiced observer of the whole ground. We assuredly do not consider ourselves as bound to "take up the cudgels" whenever the Editor of the Examiner may be prompted by the black bile engendered by the envy of a rival city, to pour out the most violent abuse upon any and every medical publication that may be issued by the latter; but we do assure him that whenever, as on the present occasion, he drags us, by the head and shoulders, into such unwelcome proximity, he will never fail to hear our echoing thunder. Thus, in a notice of not more than half a page of the work of M. Chailly, he takes occasion to introduce no less than eight extracts, each of a few words, from our own Journal, in the way of showing off his powers at witticism. Now, it would have been just as appropriate to have introduced so many extracts from a public document by the Chinese minister, Linn; and, indeed, such would be the fate of this same personage, were he to lose his present place, as the newspapers have lately intimated, and come to New York and engage in the writing and publishing of medical books.

In the course of our editorial duties, it has fallen to our lot to pass judgment upon the work of M. Chailly, translated and edited by Dr. Bedford, of this city; and as we, in the exercise of our editorial judgment, thought fit to speak of its great practical value, this has been deemed by the Editor of the "Examiner" as sufficient cause to include our devoted head beneath the anathemas which he, with the utmost seeming *con amore*, fulminates upon the two "outside barbarians," M. Chailly and Dr. Bedford, as well as, indeed, upon all French obstetrical writers. Now, we will show, in a few words, that he, among all medical editors, stands alone in the attempt at the disparagement of M. Chailly's treatise, while we, in praising it, have spoken the universal language of England, France, and the United States, save the single exception of the "Medical Examiner," of Philadelphia.

Philadelphia, conducted by our friend, Professor Huston, who is himself the editor of the late American edition of Churchill's Theory and Practice of Midwifery.

It cannot have escaped observation that, within the last three years, the re-publication of *British* works in the obstetrical department has become quite the rage at Philadelphia, a new work having been thus issued annually. First, we had Dr. Rigby's work, as first published in Dr. Tweedie's Library; next, Dr. Ramsbotham's "Process of Parturition" appeared, with notes by an American physician; and since, the work of Dr. Churchill has been re-published, with additions by Professor Huston, intended to "Americanize" it for this market.

The latter gentleman, who is the editor of the Medical Examiner, seems to think it presumption, or something worse, in the New York press to interfere with the monopoly thus attempted in the department of Midwifery, and especially by publishing a new work on this subject, originating among such "outside barbarians" as the *French!* Indeed, he denies that, since the time of Baudelocque, there is anything of real importance on this subject emanating from the French! while, of the British works, of the last of which he is the American editor, he implies prodigious merit. And he complains grievously of M. Chailly and his American annotator, that they have not made suitable mention of the

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Passing over the medical journals of France, which are loud and unanimous in their praises of this extraordinary work, we will refer at once to those of England which surely cannot be accused of any partiality toward the medical literature of their neighbors across the channel. As an example, let us take the British and Foreign Medical Review, for October, 1842. It so happens that both the works of Chailly and of Churchill, the latter having been since republished in Philadelphia, with notes by the Editor of the Examiner, are here reviewed in connection; and of seven and a half pages given to the consideration of both, all but one short paragraph are devoted to the praises of M. Chailly's pages. Here is every word that is said relative to Churchill:

"The object of Dr. Churchill's volume is to offer to the student in midwifery a work, embracing the modern discoveries in the physiology of the uterine system, with all the recent improvements in practice, in a condensed form, amply illustrated and at a moderate price. It contains ample evidence of the industry with which the author has consulted every authority of eminence to bring his work up to the present state of science, and he confesses, generally, in the preface that he has not hesitated to avail himself of the labors of Drs. Ramsbotham, Rigby, and others. It would have been well, we think, if more precise acknowledgment had been granted to Dr. Ramsbotham, for we observe that many of the wood-cuts are copied exactly from his work: others are merely reversed. Dr. Churchill's work is upon the whole a fair and instructive compilation; but, as Malthus says, 'it is born into a world already possessed,' and we cannot conscientiously say that it will bear comparison as a *practical guide*, with other works that have recently appeared upon the same subject, and which we have noticed."

In our own country, the book of M. Chailly has been received with much more than ordinary favor. As for instance, in this city; also by the Boston Medical and Surgical Journal, by the Western Journal of Medicine and Surgery, Bell's Bulletin of Medical Science, and the Western Lancet, all of which give it the most enviable character for practical value and the clear style in which its precepts are conveyed.

It is thus seen that, on both sides of the Atlantic, the "Medical Examiner" stands alone in its opposition to this eminently practical work by M. Chailly—an opposition, the cause of which few will have any difficulty in explaining.]—EDITOR.

works of the British writers, and especially that of *Dr. Churchill*, edited by Professor Huston!

In these days of *book-makers*, in contradistinction from authors, it does, indeed, require no little moral courage to prepare and publish, as *M. Chailly* has done, a strictly "*Practical Treatise;*" and yet, in such a work, it did not occur to the critic of the "Medical Examiner" that it would not comport with the plan of M. Chailly to cite authorities or quote authors, whether British or American. Himself a *practical* man. and preparing for students and practitioners a brief, original, and *practical* work, such a course would have been inappropriate and absurd. It would have been otherwise only on the supposition that he was imitating the modern book-makers, both British and American, on this subject, who, as they are often mere compilers, are obliged to name the sources of their knowledge, by frequent references to, and citations of, the authors from whom they derive their materials. Not so with the work of M. Chailly, made up as it is of clinical practice, and abounding with the results of the author's personal observations and experience in a department cultivated by him with ardent and exclusive devotion; and this, too, in the midst of the unrivalled opportunities and facilities furnished by the Parisian schools and obstetrical cliniques of France, where the science is taught in greater detail and perfection than in any other part of the world.

But the work of M. Chailly will bear the test of scrutiny upon its own intrinsic merits, even though judged by comparison with any *British* author, not excepting Dr. Churchill, with Dr. Huston's notes superadded. For, notwithstanding the complaint that he is guilty either of "ignorance or neglect of everything that is not French," it will puzzle even a Philadelphia critic to point out any "great principle or important fact in our knowledge of obstetrics" which is not included in this "practical treatise;" nor does the author anywhere insinuate any exclusive claims for the French, or betray the narrow spirit of *national* predilections or prejudices, so unworthy of a liberal profession. The attempt to disparage him and his illustrious preceptor, Paul Dubois, unaccompanied by any other grounds than that they are Frenchmen, and flourish in Paris, merits no comment.

The superiority of M. Chailly's "Practical Treatise" over any of his predecessors, whether British or American, may be affirmed without undervaluing either of them, or in the least detracting from their peculiar merits, since it is strictly and pre-eminently what it purports to be, a "practical treatise," and hence occupies a field hitherto unexplored. Moreover, while it is designed as a book of reference for practitioners, the author seems especially to have adapted the work to the instruction of students; and, in this latter object, his success deserves high commendation. A few only of its distinctive peculiarities will here be indicated.

In the classification of individual subjects, which collectively constitute the science of Midwifery, no writer who has preceded him has so fully succeeded in simplifying the details under each of his divisions, presenting a *coup d'œil* of the whole in a single group. The following brief analysis of the arrangement here adopted, will illustrate the merits of the work in this respect.

In Part I. M. Chailly describes the organs of the female concerned in parturition ; one chapter being devoted to the pelvis, and another to the organs of generation.

Part II. treats of conception and pregnancy, the latter being divided into distinct chapters, separately devoted to normal, abnormal, and false pregnancy, and then to the diseases incident to pregnancy.

Part III. considers the subject of delivery in general, and includes the several aspects of this topic, such as spontaneous delivery, its causes, and phenomena, both physiological and mechanical ; presentation of the vertex or head flexed : anomalies ; prognosis ; attentions required during labor ; attentions to mother and child after delivery ; complications which may retard or prevent labor ; diseases unconnected with labor ; accidents compromising the life of mother or child ; uterine hemorrhage during labor ; eclampsia ; rupture of the uterus ; rupture of the vagina ; difficulties resulting from anomalies in labor ; mechanical obstacles to parturition ; obstetrical operations, &c., &c.

Part IV. treats of the accidents following delivery, first to the mother and then to the child.

By pursuing this natural order, M. Chailly conducts the pupil, by an easy transition, through all the intricacies of the subject, grouping together both the accidents and their treatment in each of the divisions, viz., pregnancy, delivery, and the puerperal period, each being thus rendered complete in itself. The multiplied drawings in outline, with which he has accompanied the text, in point of simplicity and accuracy, possess great merit ; and the skill of the author, both in condensation and simplification, has here furnished to students of obstetric science, a work every way adapted to their purpose, and one which such cannot fail to appreciate.

The limits of this notice will not allow of any extensive allusion to the improvements of the work by the translator and editor, although his critical and practical notes are many of them worthy of high commendation, while of the translation, it may suffice to say that it has been faithfully performed, and in a flowing and graceful style. It is due to him, however, that a few of the American additions should be alluded to here, and we cannot refrain from transcribing one or more brief extracts, as specimens of the notes.

And, first, it is gratifying to remark the strong terms of reprobation in which the editor speaks of that class of obstetricians, who habitually carry with them, into the chambers of their parturient patients, the implements of death, whether in the shape of ergot, the forceps, or blunt hook, in the indiscriminate anticipation of opportunity to employ either the one or the other, should the case prove to be tedious or protracted. The cautions against the improper use of ergot, and the officious and dangerous use of the forceps, or any other instrument to hasten the process, where spontaneous delivery may rationally be confided to the unaided resources of nature, are timely, and should be reiterated by every teacher in the land. The cases reported by Prof. Bedford, as occurring within his knowledge, and in which fatal results were produced, cannot fail to prove a salutary warning to young practitioners, against imitating examples too often set by older men, from whom better things should be expected.

The indiscreet haste and immoral rashness, with which Cephalotomy and Embryulcia have sometimes been resorted to, are severely censured ; and the editor deserves the thanks of the profession for the decided testimony borne against such unprofessional hardihood. The following case, illustrating the murderous character of this horrible operation, needlessly performed upon a living child by two physicians, is a shocking exhibition of the butcheries perpetrated by ignorance and presumption in this department.

> "Within the last twenty months I have seen *five* cases of rupture of the uterus. This is a fearful number, and the proportion is far too great for them all to have been spontaneous or unavoidable. Unfortunately, several of them were the direct consequences of gross mismanagement. Never can I forget the melancholy scene which I witnessed about eighteen months since in a case of this kind. I was requested to visit, about five miles from the city, a poor woman, who had been in labor thirty-six hours. From the commencement of her labor she had two medical gentlemen with her, and, for reasons which I trust were satisfactory to themselves and their consciences, they determined on the use of the perforator. This instrument was accordingly thrust into the brain of a living child; the labor, however, did not advance, and they proceeded to remove the fœtus piecemeal. After four hours' work they succeeded in bringing away the whole of the fœtus in a mangled condition, except the head, which was still in the womb. The friends of the unfortunate sufferer became alarmed; their confidence was lost; and the serious apprehensions entertained for the safety of the woman induced them to call in additional aid. I was sent for; and, hearing the particulars of the case as far as the messenger could communicate them, I hastened to the house, accompanied by Dr. Busteed and two of my pupils, Messrs. Burtsell and Cook. On entering the room of the unhappy woman, a scene disclosed itself at which the heart sickens. The patient was pale and exhausted; her countenance was that of a dying woman; she was almost pulseless, with cold extremities, and the perspiration of death on her. She begged us to relieve her, and said she was willing to undergo any suffering if she could only be spared to her children! Poor creature! had she known that she was about being removed from her children by the atrocious butchery of men to whom she had confided her life, she would not have made the appeal she did. In approaching the bed of this *murdered* woman, and in attempting to make a vaginal examination, to ascertain the condition of the womb (the head of the fœtus being still within its cavity, having been separated from the trunk), the reader may imagine my feelings on finding a mass of small intestines protruding from the vagina, and lying between the thighs! Such was the fact. The operators had not contented themselves with slaughtering the infant, but they ruptured the uterus, through which the intestines now protruded; and in this condition they abandoned the woman!! From what I could learn, she lay in this situation for three hours before I saw her, the doctors having left the house, stating that nothing more could be done!! Verily, death does terminate all human effort.
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> "Why was embryotomy had recourse to in this case? I never could ascertain. There must have been some secret reason for it; perhaps the burning love which some men have for the eclat of *bloody deeds*. There was no deformity of the pelvis; the head of the fœtus was of the ordinary size; and, as far as I could learn, it was nothing more than an ordinary protracted labor; the pains had not been severe, and there was not sufficient expulsive force to deliver the child; the doctors judged it advisable *to do something*, and they determined to turn and deliver by the feet. They accordingly proceeded; and, mistaking a hand for a foot, pulled it down into the vagina. They were then foiled; and, in order to complete the tragedy, they commenced the horrid business of cutting up the fœtus, and extracting it piecemeal! Thus were two lives wantonly sacrificed. The poor woman died in about two hours after I arrived, and, half an hour before she sunk, she observed, "*My poor baby was alive, for I felt it move when the doctors were tearing it away from me.*" Such language, uttered under such circumstances, was indeed calculated to awaken the reflections of the actors in this scene of carnage, and point out to them the magnitude

of their guilt. This may seem a harsh expression on my part, but, in the name of justice, is it not merited?"

Both the author and editor concur in condemning the barbarous crotchet, as unsafe to be used even upon a dead child, in view of its liability, in the best hands, to lacerate the body of the mother, whose preservation is alone the justifiable object of embryotomy, in the few cases in which this operation becomes necessary. The former substitutes the cephalòtribe, or compressing forceps of M. Baudelocque, for breaking up the base of the skull, and extracting the body of the child, thus rejecting both the perforator and the crotchet. Prof. Bedford suggests an improvement in the form of the instrument, by a guard which slides in a groove upon the handle of the crotchet, and protects its point. The improvement will be deemed a valuable one by every practical accoucheur, who has ever been under the necessity of employing the crotchet, and, indeed, it obviates the well-founded objections to its use.

The instructions given in the notes of the editor, on the subject of the forceps, are eminently practical, and his improvements in the form and structure of this instrument, are valuable and novel. His criticism upon Ramsbotham, and other late writers, in relation to the rule for applying the forceps, demonstrates that he has unlearned in practice what he had learned in the books, and that he refuses unlimited subserviency to the authority even of the great names who have sanctioned this imbecile error. Indeed all practical men will concur with the editor that when artificial delivery is indicated, any serious danger to the life of either mother or child will demand the employment of the forceps, without any reference to the question whether or not "the ears of the child can be felt." The adhesion of such a man as Ramsbotham to this antiquated rule for the application of the forceps, is truly extraordinary, for he himself directs their use in certain cases where the head has not yet escaped from the superior strait of the pelvis, and when the ears cannot by possibility be felt. To allege that the ears are necessary as a "guide for the adaptation of the blades of the forceps" is still more surprising; for the recognition of the sutures, fontanelle, &c., will enable any competent accoucheur to grasp the head by its bi-parietal measurement and apply the forceps.

On the highly important topic of "premature artificial delivery," the following extract is introduced, as possessing peculiar practical interest:

> "*Premature artificial delivery* I cannot but regard as one of the most precious aids of which, under certain trying circumstances, the accoucheur can possibly avail himself. Why enlightened France, a country which has done so much for the sound advancement of obstetric science, has for so long a period rejected this operation, I cannot understand. And I participate entirely in the feelings of pleasure expressed by our author, that the attention of his countrymen should at last have become awakened to the importance of this subject. In Germany and Holland, premature artificial delivery has been had recourse to of late years with the most satisfactory and marked results. According to Kilian (*Die Operat. Geburtshülfe*, p. 298), this operation, up to the year 1831, had been performed 161 times, viz.,

In England	72
In Germany	79
In Italy	7
In Holland	3
	161

"Of these 161 cases, 46 fœtuses were born dead and 115 living, 73 of which continued to live. Eight only of the mothers died after delivery, and five of these succumbed from causes entirely unconnected with the operation.

"Now, supposing that these cases absolutely called for this operation, here are results, between which and the results of the Cæsarean section, symphyseotomy, or craniotomy, either as regards the ultimate safety of the mother or child, no comparison can be instituted; the chances of safety both to mother and child being in favor of artificial delivery at least as five to one.

"While I heartily concur in the views entertained by Drs. Dubois and Chailly as to the value and importance of this operation, *when absolutely indicated*, yet there are some points of practice suggested by them from which I cannot but dissent, and I do so with great deference.

"1st. I do not think the introduction of the speculum at all necessary; the operation can be performed not only with facility, but entire safety, without this instrument. Again, I hold it to be a rule, which the pupil should ever keep in memory, that the feelings of his patient are always to be sacredly guarded, and on no account should there be an unnecessary exposure of her person.

"2d. The promiscuous administration of ergot, as an auxiliary in this operation, must occasionally be attended with serious consequences to both mother and child. For, in the first place, the justification of premature artificial delivery is founded on the fact that there is such a contraction in the bony or soft structures of the mother as seriously to endanger her life, as also that of her child, if she be permitted to pass on to her full term. Now, if one of the extremities of the fœtus should not present at the superior strait (and this cannot be positively ascertained before the dilatation of the uterine orifice), to administer ergot would be to ensure the death of the fœtus, and not unlikely serious lacerations might ensue to the mother. For example, if the child should present crosswise, or in any other manner so as to cause a disproportion between it and the parts through which it has to pass, ergot would certainly be contra-indicated.

"Instead of introducing a piece of prepared sponge into the orifice of the uterus, and afterward plugging up the vagina, I greatly prefer to use a simple gum-elastic bougie. Let the index finger of one hand be introduced as far as the neck of the womb; having reached this organ, the end of the finger should rest on the posterior lip; the bougie, being well lubricated with oil, is then to be carried along the finger, and when it reaches the os tincæ, the finger previously introduced should give the instrument a direction, NOT *from before backward, but from below upward*, in the line of the axis of the superior strait; the instrument thus directed, should be made merely to enter the orifice, and not be introduced higher, and by the finger already in the vagina the end of the instrument should be pushed gently backward and forward; and with this careful titillation, the uterus will often be thrown into contraction. Should, this, however, not prove sufficient to cause the action of the womb, after the lapse of twelve hours the instrument should be again introduced, and carried sufficiently high to rupture the membranes. This being done, the contractions usually proceed, and delivery is effected. Should, however, the womb become inert, I should much prefer awakening its energies by the gentle and cautious introduction of the finger into the uterine orifice than by the use of ergot, at least *until the absolute position* of the fœtus had been ascertained.

"I have been obliged to have recourse to premature artificial delivery twice in the same lady, and with entire success. In both instances I pursued the course just recommended.

"This lady was a native of Canada. Her husband, some months after marriage, took her to South America, where she was delivered of a child. He stated to me that she had been suffered to remain in labor five days; and after experiencing the most agonizing pains, she was spontaneously delivered of a putrid fœtus, of immense size. In about a month after her delivery she began to walk about her room, and although weak, she was otherwise in tolerable health. The first intimation she had that there was anything wrong was the excessive pain in any attempt at sexual intercourse; this proved to be impossible.

In the course of a few weeks they sailed for New York, and as soon as they arrived, my late lamented friend, Dr. Bushe, was sent for, and was requested to take charge of the case. At this time his health was so infirm as to disqualify him from attending general practice. He sent a note to me by her husband, requesting that I would take this lady under my professional charge. On visiting her and making an examination, I found that the entire vulva was in a state of adhesion, allowing only a small opening for the meatus urinarius. After hearing the account of her labor, this condition of things was easily explained. From the long and severe pressure of the head of the fœtus against the walls of the vagina, violent inflammation ensued, resulting in sloughing, and a consequent adhesion of the vaginal parietes. The indication in this case was obvious—the vagina needed restoration. Accordingly, I commenced an incision just below the meatus urinarius, and extended it about an inch downward; the scalpel soon came in contact with cicatrices so resisting that it appeared almost as if I was cutting on iron As soon as I completed the incision, I introduced a small sponge covered with oil silk, and retained it *in situ* with the T bandage. By occasionally withdrawing the sponge and renewing it, I found that the vagina yielded slowly to this sort of pressure. With the aid of a small-sized rectum bougie, carefully introduced twice a week, and, after being withdrawn, replaced by the sponge, the vagina, in the course of a month, permitted the introduction of the finger; then I had an opportunity of ascertaining its condition. It was filled with hard and unyielding cicatrices, in the form of rings. Having succeeded in dilating the vagina to this extent, I then recommended this lady to continue the sponge, and occasionally to introduce the bougie. In the course of three months, I was visited by her husband, who seemed somewhat chagrined, and he stated that it pained him to say that his wife thought she was again pregnant. This I found really to be the case, though it is manifest from what has been said, that sexual intercourse must have been attended with great difficulty. With this, however, I had nothing to do; the mischief had been done, and it was my duty to provide in the best possible manner for my patient's safety. The sponge and bougie (gradually increasing the size of both) were constantly used, and the vagina seemed to yield slightly to this continued pressure; this lady having passed six months and a half of her gestation, I deemed it prudent to hold a consultation as to the propriety of resorting to *premature delivery*, feeling in my own mind that (although contractions of the soft parts do sometimes yield to the combined influence of pregnancy and labor) in her situation it would, to say the least, be hazardous to the child to allow her to proceed to her full term. On proposing the consultation to her husband, he was anxious that a particular friend of his, Dr. Richardson, of Havana, then on a visit to this city, should be called in. This was accordingly done; and after a full examination of all the circumstances, it was deemed prudent to bring on *artificial delivery*. This I did in the manner above indicated, and delivered the lady of a fine, healthy girl. This lady again became pregnant, and went to the city of Baltimore, where she was delivered at full term, with the forceps, of a dead child after a labor of six days!! In consequence of the contraction of the soft parts, the vagina was lacerated; vesico-vaginal fistulæ followed, and again the vagina became considerably contracted. About three years from her last delivery, I was again consulted in her case. She was pregnant, and I resorted to premature artificial delivery, the soft parts not being in a condition to justify delay until the completion of gestation. In this instance, too, the child was born alive, and lived for three months."

In other portions of the work, the notes of the editor will be found to be equally valuable, but we forbear to dwell upon them further, and must refer to the volume, which is made accessible to all, by the low price at which the publishers have issued it. We are not surprised to learn that within a single month, the whole of the first edition has been disposed of, and that another and larger reprint is already in press, and will soon be forthcoming to supply the demand.

We heartily respond to the favorable opinions expressed by the French and British reviewers of the work of M. Chailly, and we predict similar justice in reference to the American edition, everywhere but in the Philadelphia Medical Examiner, which is conducted by the editor of a rival publication. And when even he has taken time to read the work, which he evidently has not done, he will find occasion to correct the errors into which his indiscreet and hasty critique has betrayed him. And notwithstanding his prejudices against "everything French," and especially against the publications of the "Commercial Metropolis," he may yet find it expedient to do justice, for his own sake, if not for the sake of the homage due to the majesty of truth.

New York, now so prosperous in her Medical schools, will soon not be behind any sister city in the authorship or republication of standard editions of Medical books. Several of our publishing houses are turning their attention to this department with a spirit of zeal and liberality truly commendable, and we predict, while we bespeak for them, ample success.

D. M. R.

ART. XI.—*A Complete Condensed Practical Treatise on Ophthalmic Medicine.* By EDWARD OCTAVIUS HOCKEN, M.D., Physician to the Blenheim Street Infirmary and Free Dispensary; Fellow of the Royal Medical and Chirurgical Society, etc. Part I. 12mo., pp. 108. London: Samuel Higley.

THIS work, as the prospectus announces, will be completed in three parts; and it is proposed to present, in a comparatively small space and at a trifling expense, a complete practical digest of the present state of Ophthalmic Medicine.

The author is already favorably known to the profession by a kindred treatise on "Amaurosis and Amaurotic Affections, with the connected Diseases," and by papers on several other medical subjects. He comes to us, in truth, sufficiently well recommended on every side.

> "The object of the author," he says, "in the following work is to present the student and actively engaged practitioner with a complete digest of all that is known of the Diseases of the Eye, both from his own experience and from all sources, British and Foreign. In order, therefore, to suit their convenience, he has condensed his chapters, as far as was compatible with a *complete practical* view of the subjects treated of, by the use of clear, concise language, and by the omission of all unimportant or useless matters, tedious details of cases, historical particulars, and mere learning, by which the pages of more voluminous works are swelled. At the same time, he has endeavored to introduce every useful, practical, and interesting fact, which he has learnt by the very extensive opportunities of observation afforded him by cases under his own or others' care during the last nine or ten years, and by the perusal and digestion of almost all the books, essays, and papers published on ophthalmology, or which, although not devoted to the subject, contain valuable hints in connection with it. As the main object has been to render the volume a faithful guide in treatment, the author has introduced a chapter on the best modes of examining the eye in various diseases, of arriving at a just diagnosis, and of directing treatment on the most successful principles."

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *Process of Ossification.*—In the "Physiological Anatomy" of Todd and Bowman, is a description of the process of ossification, which is, in several points, new and interesting (p. 117). In the vicinity of the point of ossification the nucleated cartilage-cells (which usually are scattered irregularly) arrange themselves in linear series, which run down, as it were, to the ossifying surface. At first the series are small and not regular, but nearer to the ossifying part they form rows of twenty or thirty. The cells in these rows are closely compressed, and their nuclei seem flattened. The lowest rows dip into and rest in deep narrow cups of bone, formed by the osseous transformation of the intercellular substance between the rows, and as ossification advances these cups are converted into closed areolæ or *cancelli*, with extremely thin lamelliform walls. Immediately upon the ossifying surface nuclei, which before were closely compacted, separate considerably from one another by the increase of material within the cells: they also often enlarge and become more transparent. Deeper in the new bone the lamellæ which inclose the cancelli, and which were formed by the ossification of the intercellular substance, are found thicker and more like perfect bone: they include in their substance elongated oval spaces, which, except that they are roughly granular, exactly resemble the ordinary *bone corpuscles*, and which are evidently the nuclei of the cells of the temporary cartilages. The curvilinear outline of the now ossified cells of these nuclei can often be discerned. Within the cancelli only a few cells can be detected, these cavities (of the cancelli) being chiefly occupied by a quantity of new substance, consisting of granules, and resembling a formative blastema or basis. It thus appears that after the ossification of the intercellular substance (by which are formed the lamellæ which are the walls of the cancelli), the rows of cartilage all arrange themselves on the inner surface of these newly-formed cancelli, and are ossified, with the exception of their nuclei, which remain granular, and subsequently form the corpuscles of bone; and that a new substance or blastema appears within the cancelli, from which, probably, vessels are developed, and the further steps in the growth of the bone proceed.—*British and Foreign Med. Review.* January, 1844.

2. *Testicles.*—Mr. Gulliver has confirmed R. Wagner's observation, that the general enlargement of the testicles which takes place as the period of procreation approaches, is accompanied by enlargement of the individual seminal tubes. During winter he finds that the seminal tubes of birds are tolerably thick and strong; but at the season of procreation semen accumulates in them, and their coats are so distended and attenuated that they are very easily ruptured. The same thinning and enlargement of the tubules occurs in the development of the human testicles at puberty.

An interesting case, proving the sympathy of the vital organs with the testicles, is recorded by Dr. Schlesier. A healthy man engaged in a fray in the dark, was suddenly heard to shriek out: he fell in convulsions and died in five minutes. On examination the only injury found was the rupture of both the spermatic arteries and veins at the internal rings, produced by the scrotum and testicles having been seized and pulled down by one of those with whom the man was fighting.—*Ibid.*

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

3. *On Febris Intermittens and Hypertrophy of the Spleen, showing the Influence of large Doses of Quinine.*—The following cases, chosen among numerous others, prove that intermittent fever is produced by hypertrophy of the spleen (*hypersplenohæmia* or *hypersplenotrophia*, according as there is merely a congestive state, *hyperæmia*, or true *hypertrophia*), and, at the same time, show that the discovery of this condition was obtained by plessimetry. The practical induction to be drawn from this fact, was to discover a remedy which would act principally on the diseased organ; and clinical observations show that the sulphate of quinine possesses that quality to an eminent degree; for, when administered, the spleen decreases rapidly in size, and at the same time, the paroxysms of the fever diminish in intensity, and totally disappear when the organ is reduced to its normal state. This fact may be daily observed in the wards of the Professor at the Pitié.

Case 1.—A man at No. 17, Salee St. Raphael, was affected with intermittent fever, the paroxysms of which came on every eighth day. By plessimetry the spleen was found to be upwards of eight inches in length. Desirous of proving to several physicians present the efficacy of the sulphate of quinine, and as no immediate danger was to be feared, the Professor administered nothing for about a fortnight, during which time two new paroxysms took place. He then ordered 15 grains of the sulphate of quinine, and, in the space of five minutes, the dimensions of the spleen had decreased about one inch. The dose was repeated in the evening, and the next day the length of the organ was only 6¼ inches. The vegetable alkali was continued until the spleen offered only 4½ inches in length (its normal size), after which the paroxysms disappeared, and the patient left the hospital cured.

Case 2.—Jean Janin, a mason by trade, ætat. 39, native of a department where intermittent fever is endemic, especially in autumn. In the month of September, 1830, he was seized with *quartana*, which lasted thirteen days, and which yielded to a few doses of cinchona. Admitted into the hospital for a bronchitis, he stated that, three days before, he had experienced an abundant epistaxis, by which he had lost about lb.j of blood. On examination, the dimensions of the spleen were found to be in length 11½ inches, breadth 5½ inches. Its anterior border was easily felt on depressing the abdominal parietes; it descended as low as the fossa iliaca, was hard and thick. The patient was placed so as to relax as much as possible the abdominal muscles, and several persons were requested to place their hands on the spleen. The sulphate of quinine was then administered at the dose of grs. xviij; a minute had hardly elapsed before the organ was felt to recede, and four minutes after, it presented less than 10 inches in length. The quinine was continued, the dose being gradually increased to grs. xxvij morning and evening. The third day the patient was much better, and could lie on either side without experiencing the least pain, which he could not do before his entry. Five days after, the spleen was only 5½ inches in length, which, though larger than in its normal state, had decreased upwards of one-half; abdomen decreased in size; fæces natural. The patient then left the hospital, if not completely cured, at least much better.

Case 3.—At No. 34, Salle St. Raphael, is a man affected with *hypersplenotrophia:* dimensions of the spleen—length upwards of 4½ inches, breadth 4 inches; and from the matity produced on percussion, it may be concluded that its thickness was considerable. Questioned, the patient mentioned that he had a paroxysm (the first, the day before he entered the hospital), but as there might be some doubt as to the existence of paroxysmal fever, notwithstanding the enlarged state of the spleen, Professor Piorry waited until a second paroxysm appeared, ere he administered the sulphate of quinine. The return of the fever did not cause the spleen to increase in size, a fact which proves that the former is the effect, not the cause, of the hypertrophy of the latter. After the second paroxysm, grs. vj. of the sulphate of quinine were administered, and repeated the next day, which quantity was sufficient to reduce the spleen to its normal size, and to prevent the return of the fever. [The preceding remarks by Prof. Piorry, of Paris, are from the London Medical Times of May 18th.]

PATHOLOGICAL, THERAPEUTICAL, AND OPERATIVE SURGERY.

4. *Foreign Body in the Bronchia of a new-born Infant.*—The following case was related at the *clinique* of one of the professors at Marseilles. A child, two months old, was seated upon the lap of its mother, who was engaged in preparing beans for dinner; suddenly he was seized with a convulsive cough, recurring at intervals, and always succeeded by a perfect calm. A physician was called, who, on examination, found the following condition of things: face pale; countenance fixed and expressing great uneasiness; respiration difficult, and detected by the motion of the nostrils; no fever; and nothing revealed by auscultation. The slightest movement induces a suffocating access of cough, and the child leans forward and opens his mouth wide, as if for vomiting. Various hypotheses were suggested as to the nature of the case, and, in the meantime, leeches, a vomit, and blisters, were prescribed. A foreign substance being finally suspected, tracheotomy was performed, but it proved unsuccessful, as the child soon after died. At the autopsy, a large white bean was found at the bifurcation of the bronchial tubes; it was swollen, and surrounded by pus and false membrame; the lungs were hepatized.

OBSTETRICS AND DISEASES OF FEMALES.

5. *Influence of Menstruation on Lactation.*—M. Raciborski investigated the influence of menstruation on the milk of nurses, and on the health of the infant in seven women who menstruated while suckling. He could discover no other change in the milk at those periods, than that it contained a smaller quantity of cream; and he concludes that the injurious influence of menstruation on the health of the infant has been greatly exaggerated, and that the circumstance of a woman menstruating during lactation is not a sufficient reason for rejecting her as a wet nurse.—*Brit. and For. Med. Review, April*, 1844.

MISCELLANEA.

6. *Accident to M. Gay-Lussac.*—Galignani's Paris Messenger contains the following account of an accident which recently happened to the celebrated chemist, M. Gay-Lussac:

M. Gay-Lussac was a short time since seriously injured in his Laboratory at the Garden of Plants. As he was opening a bottle in order to make an experiment, the sudden admission of air inflamed the contents and burst the bottle with such violence that persons outside conceived it to be the report of a musket. M. Gay-Lussac was thrown down, with his face and hands dreadfully cut by the fragments of the bottle; but it was hoped that no serious consequences would ensue. A young assistant who was with him at the time, received a few wounds, but they are comparatively slight.

[This accident is precisely similar to one that happened to Professor Hare, of Philadelphia, some years since, when the Professor and his assistant, Dr. Godon, of the U. S. Navy, were both seriously injured by an analogous explosion. We are pleased to learn by recent French journals, that M. Gay-Lussac has again made his appearance at the Academy, on which occasion, he thanked the members for the interest they had shown in his welfare, while the President expressed to him the great pleasure which his restoration to health afforded to all his colleagues.]

2.

American Medical Intelligence.

Copland's Dictionary of Practical Medicine.—We heartily congratulate the profession on the following announcement, by which they are informed of the immediate re-publication of the great work of Dr. Copland, by Mr. Langley, the enterprising publisher of this Journal. It will be issued upon such terms as will place it within the reach of every medical man in the United States; and it will be brought out under the superintendence of a gentleman, whose character and qualifications are too well known to need any commendation at our hands. We cannot express our own estimation of the value of the work, better than by quoting a few passages from the April number of Dr. Forbes's "British and Foreign Medical Review:"

> "It affords us sincere pleasure to be able to announce to our readers, that the great work, whose title we have just transcribed, has at length arrived at such a stage of its progress, and attained such a form, as to claim a more formal notice from us than we have hitherto given it. Two-thirds of the gigantic task undertaken by Dr. Copland are completed, and the first two volumes now stand before us in their own portly size, and fitly appareled for the bookcase. We are given to understand that the materials of the remaining volume are in an advanced state of preparation, and that the future parts will appear at shorter intervals than those of the last volume. * * *
>
> "The thing, however, that more immediately concerns us is, that here we have before us two huge volumes out of the three of which the Dictionary is to consist; and when we record this 'great fact,' we feel it equally a great duty to record our opinion—that, as there is no medical practitioner in this country, old or young, high or low, who will not derive great pleasure and great profit by consulting them, so we think there is no one who should not add them to his library. The information amassed in these volumes is literally enormous, and contemplated simply as an accumulation, it must excite astonishment as the production of an individual; but when it is further considered, that the whole of the materials have been most carefully selected from all existing sources, most patiently studied, valued, winnowed, digested, elaborated, and arranged into compact and simple forms, easily accessible and readily available in practice, it is not easy to point out, in the whole of medical literature, any work by a single hand, so much calculated to excite admiration of the industry and talents of the author. In every article contained in the volumes, the reader cannot fail to be struck with the writer's most extensive learning, which has enabled him to collect knowledge from all authorities, ancient and modern, foreign and domestic; and he will, at the same time, be no less surprised than gratified at the singular power which has arranged the whole so lucidly and in such systematic order. * * * * * *
>
> "In comparing the 'Dictionary of Practical Medicine' with its numerous rivals, the work of a large body of contributors, we have always been surprised, and we are more so now than ever, that one man should be able to cope with so many. And looking at the one near us, and which may be regarded as perhaps the best of its class, the *Dictionnaire de Médicine Pratique*, we are naturally reminded of the complimentary couplet addressed to Samuel Johnson on the completion of *his* Dictionary, and which, *mutato nomine*, may, with at least equal propriety, be applied to our author:
>
> "And *Copland* well armed like a hero of yore,
> Has beat forty Frenchmen and will beat forty more."

On the following page will be found the announcement of the American publisher.

HENRY G. LANGLEY,

8 ASTOR HOUSE, NEW YORK,

WILL PUBLISH

A DICTIONARY OF PRACTICAL MEDICINE,

COMPRISING

GENERAL PATHOLOGY, THE NATURE AND TREATMENT OF DISEASES, MORBID STRICTURES,

And the Disorders especially incidental to Climates, to the Sex, and to the different Epochs of Life;

With numerous Prescriptions for the medicines recommended.

A Classification of Diseases according to Pathological Principles; a Copious Bibliography, with references; and an Appendix of approved Formulæ.

The whole forming a Library of Pathology and Practical Medicine, and a Digest of Medical Literature.

BY JAMES COPLAND, M.D., F.R.S.,

Fellow of the Royal College of Physicians; Vice-President of the Royal Medical and Chirurgical Society of London; Lecturer on the Principles and Practice of Medicine in the Middlesex Hospital Medical School, &c., &c., &c.

Edited, with Notes and Additions,

BY CHARLES A. LEE, M.D.,

Professsor of General Pathology and Materia Medica in Geneva Medical College, &c., &c.

"Dr. Copland has here published a series of essays which may be justly said to be unrivalled for extent and accuracy of information, methodic arrangement, and the condensed form in which they are composed. If he proceeds as he has commenced, he will produce a work which is yet unrivalled in the English language."—*Edin. Med. & Surg. Jour.*

"The immense quantity of matter which is here compressed into a small space, must render the work a very popular one, more especially for those practitioners who reside in the country, or travel abroad, on account of the facility of reference, and the portability of the Dictionary. The labor is immense, and will stamp the author as a man of great research and sound judgment."—*Medico-Chirurgical Review.*

"Dr. Copland's book bears internal evidence of having been the object of years of labor and investigation, directed to the end in view. Not the least praise we have to bestow upon the execution, is the just keeping observed in respect to the length of the articles; those which relate to the diseases of moment being fully discussed in well-digested essays, while no attempt is made to give consequence to those which are unimportant. The work is a miracle of industry, and forms a fitting companion to the justly-popular 'Surgical Dictionary' of Mr. Cooper."—*London Medical Gazette.*

"A careful perusal of this volume enables us to bestow upon it our full and unequivocal approbation. Whether we estimate its individual merits, or regard it in comparison with its contemporary rivals in the various European languages, we find it entitled to rank with the foremost."—*Lancet.*

"So condensed in style, and so excellent in execution, that analysis is impossible, and criticism very difficult."—*Medical Quarterly Review.*

"A work displaying such extraordinary extent of reading, and such deep and comprehensive reflection, as to demand a place in the library of every medical man."—*E'liotson's Physiology.*

☞ *See also the preceding notice from the British and Foreign Medical Review.*

Terms of Publication.—The work will be printed from a new legible type, in double columns, and issued in monthly parts of 144 pages or more, price 50 cents each, forming about 20 parts.

Original Prospectus.

"This work contains in an abstract and condensed, yet comprehensive form, the opinions and practice of the most experienced writers, British and Foreign, so digested and wrought up with the results of the Author's Practice, that the Student and young Practitioner will not be bewildered in the diversity of the opinions and facts adduced for their instruction, but be guided in the difficult path, on which they have entered, and enabled, with a due exercise of their powers of observation and discrimination, to arrive at just conclusions and successful Practical results. To the experienced Practitioner, also, the work will present a diversified range of opinions, methods of cure, and authorities, which his mature judgment will enable him to apply in an appropriate manner to particular cases. It also comprises the complications and modified states of Disease, which are even more frequently met with in practice, than those specific forms too often described by Nosologists as constant and unvarying types, to which morbid actions, occurring under a great variety of circumstances, can never closely adhere. When discussing the methods of cure, the Author has attended to the various stages, states, and associations of Disease, to the regimen of the patient, and to the management of convalescence. He has given prescriptions for the medicines recommended in the most efficient states of combination. He has also added, in an Appendix, and arranged in Alphabetical order, upwards of a thousand Formulæ selected from those most approved, contained in the Pharmacopœias of various hospitals and foreign countries, and the writings of eminent practical Physicians, and from the notes of his own practice. The book moreover contains a full exposition of the general principles of Pathology: a minute description of the numerous organic lesions of the human body; and a detailed account of those states of disorder, incidental to the Sex, the different periods of life, and to particular climates, with the peculiarities resulting from temperament, and habit of body. It is prefaced by a classification of Diseases, according to pathological principles, and in natural order, commencing with the simplest and most limited states of functional disorder, advancing through the more extended and complicated diseases to those affecting the whole frame, and concluding with such as consist chiefly of morbid structure—the classification thus being a key to the systematic study of practical medicine, as well as an arranged contents of the work. In order to facilitate reference, as well as to avoid repetition, each article is methodically divided and headed, and the paragraphs numbered: and to each, a copious Bibliography, with References, is added.

"The author having, since 1814, been in the habit of recording references to such medical works, memoirs, and subjects as he has found upon perusal deserving of notice, presents the accumulated results to the reader. He has excluded from his Bibliography all inferior productions, and nearly all inaugural dissertations; he has selected those works, with whose character he is acquainted, and whose authors are distinguished, and he has brought down his record to the present day. He has likewise given copious references to such original papers and memoirs in the Transactions of societies, and in medical journals, as merit notice, believing them to constitute a most valuable part of medical literature and science.

"In conclusion, the work contains the results of many years of laborious study and research, and upwards of twenty-five years' extensive and diversified experience, forming of itself a Library of Practical Medicine, and a copious Digest of Medical Literature."

Cavendish Square, 1840.

NOTICE BY THE AMERICAN EDITOR.

In undertaking the Editorship of Dr. Copland's "Dictionary of Practical Medicine," the undersigned deems it proper, under a deep sense of the responsibilities he has assumed, to state briefly his views and intentions, as to the manner in which he shall aim to discharge the important task he has been urged to perform.

Regarding this work as decidedly the leading Medical production of the age, both as regards the philosophy it inculcates, the vast accumulation of facts it presents, as well as the systematic order in which they are arranged, the Editor will not feel himself justified in altering, in the slightest degree, the original text. He, therefore, pledges himself to preserve the different articles in their integrity, neither mutilating by omissions, nor qualifying by alterations and modifications. Indeed, so highly elaborated and finished are the different articles, that they form very complete monographs on the subjects of which they treat; and no one could expect, unless prompted by a high degree of arrogance and self-conceit, to be able to improve upon the labors of the accomplished author. But, it is to be borne in mind, at the same time, that, as medicine is a rapidly progressive science, additions are constantly being made to our knowledge in its various departments; moreover, the medical literature of our country is but little known across the Atlantic, and the works of American physicians have heretofore not perhaps received that degree of attention abroad, to which they are justly entitled. These omissions and deficiencies, so far as they exist, it is the design of the publisher to have supplied; and it will, therefore, be the aim of the Editor to keep this object especially in view.

It is a fact also universally acknowledged, that in consequence of the diversified range of our climate and its extreme vicissitudes, we have diseases which are not only unknown to the milder and more uniform climate of Great Britain, as yellow fever, cholera infantum, &c., but many of our diseases assume a type and malignancy never witnessed in that country; and hence they require important modifications with regard to their treatment. These facts will not be lost sight of in editing the work; and in whatever additions may be made, practical utility will be constantly kept in view. Such additions will be included in brackets [ ].

CHARLES A. LEE, M. D.

New York, June 20, 1844.

One word more in conclusion. This mighty work, which constitutes a *chef-d'œuvre* of its kind, presents, unlike the *Dictionnaire* with its forty French collaborators, referred to by the distinguished editor of the British and Foreign Medical Review, the admirable feature of being pervaded, literally from A to Z, by that harmony of ideas, which can be infused only by the exclusively controlling influence of one great master-mind. And this is a remark which applies equally to all its other rivals.

We are further pleased, in an especial degree, with the *position* of the American Editor, as *defined*, in the language of our politicians, by himself, in the preceding paragraphs. We highly approve of his intention, to embody in this vast magazine of medical knowledge, the medical literature peculiar to this country; and we rejoice the more in the announcement, as we happen to know that he is second to no one in familiarity with this subject. Moreover, we know that even-handed justice will be meted out to every fellow-countryman, who has contributed to the stores of our domestic medical literature, if but in the proportion of the widow's mite. Above all things, he will avoid following in the footsteps of the illustrious example now before him, in a neighboring city, of *quoting nobody but himself.*

Œsophagotomy.—An operation for opening the œsophagus for the purpose of supplying the stomach with food, was performed by Dr. John Watson of this city, on the 12th of February last. The patient, was a young gentleman from Massachusetts, who had been for some months laboring under stricture of the œsophagus. For some two months subsequent to the operation, the case gave promise of permanent relief. Subsequently however the disease, which was of a tuberculous nature, extended to the larynx, rendering an opening into the trachea necessary. The patient survived this last operation about a week; and he finally died on the 14th of May, of the extension of inflammation to the chest. The present, we believe, is the first instance in which the operation of œsophagotomy has ever been performed for any other purpose than the extraction of foreign substances from the gullet; and it is the fourth authentic case, in which it has been performed for any purpose. For more than three months, all the food that this patient received into the stomach, was supplied through a gum-elastic tube. The extension of disease to the air passages may be looked upon as incidental; and had it not ensued, there is no reason to doubt that the patient's life might have been preserved.

Professor Paine and the Medico-Chirurgical Review.—The readers of our first volume will recollect Prof. Paine's "*Lecture on the Improvement of Medical Education in the United States;*" and this it was that has elicited from the editor of that Journal certain remarks, which called forth from Dr. P. a rejoinder, which he published forthwith in the Boston Medical and Surgical Journal.

We regret our want of space which prevents the giving of Dr. Paine's rejoinder entire. We are obliged to be content with the following passages:

> "Sir—I see by the April number of the Medico-Chirurgical Review that that Journal, after being long passive under my 'Examination of Reviews,' has ventured upon a misrepresentation of the objects of my humble Introductory Lecture '*On the Improvement of Medical Education in the United States,*' delivered before my Medical Class at the session of 1842–3.
>
> "The Journal is pleased to complain, in the first instance, of my efforts to counteract the wretched speculations by which Liebig, and such followers of his as the Medico-Chirurgical, are attempting to overthrow the great fabric of medicine. The Journal is quite welcome to its lament over my successful efforts in that particular; and, having accomplished the task which I had prescribed for myself, I shall pass on to the Reviewer's misrepresentation of the main object of my lecture.
>
> "The Reviewer remarks that the lecturer proceeds to consider the '*Improvement of Medical Education,*' by which, however, we very soon found, to our *utter astonishment*, the learned lecturer means neither more nor less than *lowering* the standard of professional requirements.'
>
> "Whoever may have read my '*Examination of Reviews*' will not be surprised to learn that the foregoing statement is *utterly false*, and that the objects of the lecture are exactly the reverse. The whole article, turning upon that misstatement, is equally a tissue of misrepresentations. It was, however, a fitting occasion to strike a blow at all my former efforts, by representing me in the attitude of discouraging those profound attainments in medicine for which I have so long and laboriously contended. And yet who, for a moment, can believe that one, like myself, who has devoted his life to the cultivation, if not to the improvement, of medicine, should, after a life of such unintermitting toil, have become, at last, recreant to the great cause for which he has been thus long an unflinching champion?

"The Reviewer is also false in attempting to convey the belief that my remarks on the 'Improvement of Medical Education' were designed to be of universal application; whereas they were wholly and expressly limited to the existing state of society in the United States; nor is there a word said by the Reviewer of a main intention of the lecturer to sustain the medical colleges in the interior of this country.

* * * * * * *

"But my present business is with the Medico-Chirurgical Review, which, on a former occasion, I convicted of a coward's falsehood; for, unlike its associate (the British and Foreign Medical Review) in a crusade against my literary labors, it had not the spirit even to stand by its own corruption, but received, with tacit submission, the brand of infamy. Nor shall I be now restrained from again indicating, by the Reviewer's own admissions, the spirit which has hitherto prompted his misrepresentations of the labors of American physicians, and his vituperation of the American medical profession. In the article with which my unpretending lecture has been honored is a reference to a criticism on Liebig's *Animal Chemistry* in the North American Review, which has been so perverted by the imagination of the foreign Reviewer, that he is thrown into a paroxysm of indignation which demanded a nation's atonement. We read, for example, that,—

"'With respect to Dr. Paine's learned coadjutor in the quixotic attempt to demolish Liebig's theories, whose tirade appeared, if we mistake not, in the North American Review for October, 1842, we shall only say, that its *vulgar verbosity, unbecoming personalities, and rancorous hatred of everything British*, render it perfectly safe from our notice; *non tali auxilio, nec defensoribus istis tempus eget*.'

* * * * * * *

"Here I stop; not doubting that the impartial reader will trust my affirmation that I remain as ever, a devoted advocate of the highest culture of medical science; that my humble lecture has exclusively and ardently for its objects the interests and dissemination of that science; and, finally, may I not express the hope that I may be permitted to go on hereafter in the promotion of those objects without further molestation, and especially without a rancorous falsification of my arduous labors in behalf of medicine.

"I remain, Mr. Editor, very respectfully, yours,

"Martyn Paine.

"*New York, May* 9, 1844."

We are truly sorry that we cannot find even the shadow of a justification for the inconsiderate and reprehensible introduction of the following political Billingsgate into a scientific journal, by the veteran editor of the Medico-Chirurgical Review, and which Dr. Paine condemns with the most just severity:

"We cannot but remark with satisfaction the fortunate condition of the University of *Pennsylvania*. The '*drab-colored men*' may well make doctors of their sons, seeing that they can pay the *matriculation fee* with other people's money. We only trust that that very fee is not *repudiated*, and that in that very respectable State, there is in their dealings with each other, *honor among thieves*."

Had the editor looked back to the history of that war which separated us politically from the mother-country, and read in its pages how Dr. Franklin procured from our government an order to be sent to all our vessels of war, including those of our French allies, not to molest any of the ships belonging to Captain Cook's fleet of discovery, which were then on their return voyage, or had he brought to mind the more recent circumstance, that Napoleon, when in deadly political hostility with England, awarded a scientific premium to Sir Humphrey Davy, never would he have descended to the desecration of the pages of science by the introduction of such low slang as the "*drab-colored men*" of Pennsylvania, in connection with the phrase of "*honor among thieves.*"

Thus much we feel constrained to say as due to our national honor. Moreover, this is the last country upon which the editor of the Medico-Chirurgical Review ought to have vented his spleen; for it is here that his editorial labors have been most liberally appreciated by the profession generally. For the last twelve years, has his journal been a regular visitant to all the military posts of the United States at the expense of government; and now, when these same readers open its pages, anxious to learn what is new in medical science, their eyes are greeted with a national insult! We draw attention to this fact more particularly, as this Journal travels to every one of the same points.

Dr. Pfeiffer's Discovery of a Preventive of the Contagion of Syphilis.—In our last number, we mentioned the important fact that, at the Hospitals of St. Petersburg, a prophylactic soap against syphilis, consisting, as regards its active ingredients, of tannin, of the bichloride of mercury, and chloride of lime, had been discovered, without the remotest expectation, at the time, of making so speedy a personal acquaintance with the ingenious discoverer. Dr. P., who is a German, has served for some years in the Russian military service; but, having migrated to this country, he is now a resident of Brooklyn, where he practises his profession. Upon the subject of this discovery, his views are of the most liberal character, as his object is to be a benefactor to the human family, without reference to any personal advantages. He is now engaged in preparing a *brochure* upon this subject, in which the true nature of this discovery, and the benefits to be derived from it, will be set forth in detail.

The following account of this discovery has been furnished to us by his brother, Dr. Frederick Pfeiffer, of Philadelphia:

"Dr. J. D. Pfeiffer (my brother), who has been, for the last twelve years, in the Imperial Russian service, has, after many philosophic experiments, discovered a remedy, by which it is presumed that syphilis may be, in a short time, entirely eradicated. This remedy, imployed soon after the coitus, is a certain prophylactic against the infection of this disease; and, in like manner, does it prevent infection when syphilitic lymph has accidentally been deposited upon any abraded surface, whether from a wound or from ulcerative action. The infallibility of this preventive, Dr. Pfeiffer has tested thoroughly upon himself. He has been repeatedly inoculated with syphilitic lymph, by different physicians; and in no instance, under the use of his remedy, has any symptom whatever of the disease appeared.

In the Kalinka Hospital, at St. Petersburg, established for the cure of syphilis, the preventive and curative properties of this remedy were thoroughly tried, on more than eight hundred persons, with invariable success. The physicians of this hospital kept, for the period of eighteen months, regular journals and protocols of all the cases in which this remedy was tried; and these documents, signed by the administrative officers, and by all the physicians of the establishment, were, by order of the Prime Minister, handed over to the Medical Council at St. Petersburg. This body appointed a committee, who also instituted a series of experiments with the most complete success; and they reported that this prophylactic had '*satisfied all their expectations, and that it had failed in no case to prevent the contraction of syphilis.*'

As a result of these thorough trials, the Emperor granted to the discoverer a gratification, in acknowledgment of the incalculable blessing his discovery would prove to the human family. The body physician of the Emperor, Dr.

Von Arndt, in speaking of this discovery, says, 'that its beneficial consequences upon human society will perhaps be as important as the great discovery of Dr. Jenner, in the prevention of the ravages of the small-pox.' And the physician of the Empress, Dr. Von Marcus, expressed his views on that subject pretty much in the same language."

As a test of the virtues of this alleged prophylaxis Dr. Pfeifier of Philadelphia is willing to submit to inoculation with the syphilitic virus, under the direction of a committee of medical gentlemen.

It is not impossible that some objection may be made to this discovery, should it realize what is claimed for it, on the score of morality; but the path of our own duty, we conceive, lies plainly before us, requiring every possible effort, on our part, to alleviate the "ills that flesh is heir to," without inquiring too curiously into the hidden relations of good and evil.

What does Bi-Monthly mean?—A correspondent of the Southern Literary Messenger from this city, tries to be witty at the expense of this Journal, as regards the use of the word "*bi-monthly*."

"When a newspaper," he says, "is published 'bi-weekly,' we receive two copies a week; and 'tri-weekly,' three papers a week, but the 'New York Journal of Medicine' comes to us once in two months instead of twice a month. If 'bi-weekly' means twice a week, and not once in two weeks, why should 'bi-monthly' mean once in two months, and not twice a month? This is a question for etymologists. Let them decide."

Now we feel obliged to this correspondent for giving us an opportunity of saying a word upon a point which has never been entirely clear in our own mind; but we can assure him, that the sense in which we use the word *bi-monthly*, was adopted only after mature reflection.

The word, *bi-weekly* or *bi-monthly*, is not to be found in the Dictionaries of Webster, Richardson, Johnson, or Walker; but we find in all of them the analogous word, *biennial*, from *bis* and *annus*, in the meaning of which all agree, and which Webster defines as "*happening or taking place once in two years*." Hence we are taught by analogy to define *bi-monthly*, as occurring once in two months. In the uncertainty pertaining to this point, we had once determined to adopt the use of the word, *bimensal*, which is defined by Webster—"occurring once in two months;" but, on sober second-thought, we came to the conclusion that our philosophical readers, the grave sons of Æsculapius, would regard it as pedantic. We, therefore, adopted, in the use of the word, *bi-monthly*, what may be regarded as a strictly anglicized form of the word, *bi-mensal*, derived, as in the case of *biennial* given above, from *bis* and *mensis*.

Medical Schools, Etc.—Since our last number was issued, we have received the catalogue of Bowdoin College and the Medical School of Maine, the Annual Announcement of the Berkshire Medical Institution, the Introductory Lecture to the Spring Session of Lectures in Castleton Medical College, by Joseph Perkins, M.D., the Address to the Graduating Class of the Medical College of Georgia, by George F. Pierce, the Circular of the Cleveland Medical College for 1843–4, and the Proceedings of the Medical Society of the State of Tennessee at the Fifteenth Annual Meeting, in May, 1844.

Whatever disposition we might have to notice these various matters in detail, is effectually frustrated by the *ipse dixit* of that important personage, the printer's Ariel, who has just informed us, that we have already overrun our limits by as much as twenty pages.

Monument to Joseph Lovell, M.D., late Surgeon-General of the Army of the United States.—The following description of this monument has appeared in a circular, received from the Medical Bureau at Washington:

"During the past winter a monument of unusual dimensions, and great beauty, which the Medical Officers of the Army have caused to be erected in memory of the late Surgeon-General, Joseph Lovell, has been placed in the Congressional burying ground near this city. The structure, which was designed and executed by Mr. Robert E. Launitz, of New York, is of a rectangular form, and in the Grecian style. Upon a granite base five feet square, rests a superstructure of the finest Italian marble, weighing about ten tons, and reaching a height of fifteen and a half feet. A pedestal, formed from a solid block, two feet six inches square, and three feet high, upon which the inscriptions are cut, is raised to the level of the eye upon a double plinth, and crowned with a bold entablature having its frieze and cornice proper, and finished on two sides with pediments. Over all a pyramidal shaft, twenty inches square at its foot, rises with an easy taper seven feet, terminating in a capital formed after the solemn and impressive style of the ancient sarcophagi.

"In its architectural details the monument is extremely chaste and unadorned, but bold and imposing in its outline, and cannot but draw admiration from the singular beauty of its proportions.

"THE FOLLOWING ARE THE INSCRIPTIONS ON THE MONUMENT.

ON THE FRONT OF THE MONUMENT:

Joseph Lovell,
Late Surgeon-General
of
The Army of the United States.
Born in Boston, Massachusetts,
December 22d, 1788;
Died in the city of Washington,
October 17th, 1836.

ON THE RIGHT FACE OF THE MONUMENT:

In April, 1812,
On the eve
Of Hostilities with Great Britain,
He entered
The military service of his country
as Surgeon,
and served with distinction
throughout the war.
After six years arduous duty
in Camp and in the Field,
He was called,
on the reorganization
of
The General Staff of the Army,
from the station
of Hospital Surgeon
to
The Head of the Medical Department,
which,
till the close of life,
He directed, improved, and adorned.

ON THE LEFT FACE OF THE MONUMENT:

In September, 1817,
He was united in wedlock,
with
Margaret Eliza Mansfield,
The devoted and cherished
Partner of his life,
who rests beside him,
under this tomb.
Exemplary members of the church,
In all their domestic relations
They lived
Patterns of excellence,
and dying,
Bequeathed to their posterity
a rich inheritance
In their bright example.

ON THE REAR OF THE MONUMENT:

As a testimonial
of
His private virtues
and
Public services,
The officers of the Medical Staff
have caused
This monument to be erected,
December, 1843.

'*Virtus, repulsæ nescia sordidæ,*
Intaminatis fulget honoribus.'"

Medical Journals.—If the number of medical journals that a country has, is an index of its prosperity in that profession, then ought the United States and Canada to be considered as making the most rapid advances.

Quite recently we have received the first two Nos. of the "*Montreal Medical Gazette*," which is published monthly, each No. containing thirty-two pages. It is edited by Drs. Francis Badgley and William Sutherland, both of that city. There are surely practitioners enough in the British North American Possessions, especially if we include the medical staff of the different regiments stationed at her various military posts, to sustain a journal both in the way of pecuniary and literary contributions. As there are many eminent medical men in Lower Canada, who cannot even speak the English language, it is a feature of this Journal, that its pages are open to contributions in both the English and French languages. The subscription is fifteen shillings per annum.

The "*Illinois Medical and Surgical Journal*," which is issued monthly, was ushered into existence on the first of last April. Each Number contains sixteen pages, and the terms are, one dollar a year in advance.

"*The St. Louis Medical and Surgical Journal*," edited by M. L. Linton, M.D., reached, on the first of May, its second volume. Containing sixteen pages, it is published monthly; and, like the last, for one dollar a year.

The "*New Orleans Medical Journal, devoted to the Cultivation of Medicine and the Associate Sciences*," was commenced on the first of May. It is edited by Drs. Erasmus D. Fenner and A. Hester. The first Number contains 120 pages, and it is to be published bi-monthly, at the price of five dollars per annum.

The "*Western Lancet*," edited by L. M. Lawson, M.D., reached, on the first of May, its third volume. Published monthly, each Number contains forty-eight pages, and the terms are $3 per annum.

"*The Western Journal of Medicine and Surgery*," edited by Drs. Drake, Yandell, and Colescott, containing ninety-six pages, issued monthly, is the oldest medical journal of the Western States. May all the youthful progeny, in the way of medical periodicals, west of the Alleghanies, be equally successful with this one.

We hear of a new medical journal in contemplation in the western part of our own State, to be entitled "*The American Journal of Insanity*." It is to be a quarterly of ninety-six pages, and to be edited by the officers of the New York State Lunatic Asylum, at the head of which institution is Dr. A. Brigham, well known for his knowledge upon this subject. It is to come into existence simultaneously with this Number.

In our eastern cities, Boston, New York, and Philadelphia, including reprints of foreign medical journals, there are just half a score more.

This journal gives 144 pages, bi-monthly, and, as in the present Number, two meteorological tables, which are equivalent to sixteen ordinary pages, in addition, all for $3 per annum.

Upon the whole, there is not perhaps any just ground for the universal complaint that our medical doctors are little addicted to reading; but, on the other hand, when it is considered that our medical schools turn out, annually, on an average, 1000 fresh *leeches*, the demand ought surely to be on the increase.

Professor Bartlett, who has resigned his professorship in the Transylvania Medical School, has accepted a chair in the University of Maryland. His place is filled by the appointment of Dr. L. G. Watson, of North Carolina.

The Harpers have in press the following medical work: A Practical Treatise on Organic Diseases of the Uterus; being the Prize Essay to which the Medical Society of London awarded the Fothergillian Gold Medal for 1843. By John C. Lever, M.D., Member of the Royal College of Physicians, London, etc., etc. With copious additions by Gunning S. Bedford, M.D., Professor of Midwifery and the Diseases of Women and Children in the University of New York.

This is an admirable work.

Professor Caldwell on Animal Chemistry.—Having read what we regarded as too severe a *critique* upon this veteran's recent writings on this subject, in a late number of the "Western Journal of Medicine and Surgery," we are glad to see made, in the June number of the same journal, the *amende honorable*, in the way of a disavowment of any intentional severity.

Dr. Sweetser's Mental Hygiène.—This work, published, nearly a year ago, by the Langleys, we are pleased to observe, has been re-published in London and Edinburgh. In the absence of an international copyright law, the authors of both countries must be content with the unsubstantial reward of mere honor. This, however, we deem of sufficient importance to congratulate our friend, Dr. Sweetser, upon its realisation.

Patronage of the State to the Medical Department of New York University.—We learn with pleasure that the Legislature has appropriated to the Medical Department of this Institution the annual sum of $3000 in perpetuity.

Sydenham Library.—In consequence of the duty, freight, and other necessary charges incident to the undertaking, the annual subscription to the Sydenham Library for 1843–4 is $6 88, instead of $5, as heretofore announced. Those who have paid $5 will oblige the undersigned by leaving the balance with H. G. Langley, 8 Astor House, or with the Subscriber, 418 Hudson Street.—*June* 25, 1844. C. A. Lee, *Sec.*

[*Extract of a letter from the Secretary, dated London, May* 2, 1844.]

"We shall give three handsome volumes, printed on beautiful paper, and comprising somewhere about 2,000 pages of close print, for the first year's subscription of £1. 1s., so that it will be difficult, I should imagine, for any bookseller to compete with us. It will be quite out of the question to send out any books to America, excepting for regular subscribers who have paid their subscriptions in advance. We adhere rigidly to this principle in our own country, to avoid any uncertainty or speculation in our proceedings.

"Yours, very truly,
"James R. Bennett, *Hon. Sec.*

"Dr. C. A. Lee."

Electro-Magnetism, Iodine Baths, etc.—We would again call attention to the advertisement of J. H. Ross, contained in the publisher's advertising sheet, who gives his attention to cupping and leeching, and to the application of electro-magnetism, of sulphur-fume, hot air, and iodine, chlorine, and vapor baths. We mention this because, as Mr. Ross has received a regular medical education, and as he is willing to devote his time exclusively to these subordinate branches of the healing art, the profession will find it to their own advantage to give him their patronage.

METEOROLOGICAL REGISTER.

STATION, Fort Columbus, New York Harbor. Latitude 40° 42′ North. Longitude 74° 9′ West. Altitude of Barometer above low water, about twenty-five feet. Kept by JOSEPH P. RUSSELL, M. D., Medical Staff, U. S. A.

1811.	THERMOMETER.				THERMOMETER ATTACHED.				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN.			HYGROMETER, at 3 P.M.		REMARKS.
April.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M	Sunrise.	9 A. M.	3 P. M.	9 P. M	Daily Mean.	Sunrise	9 A. M.	3 P. M	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M	Sunrise.	3 P. M	Began.	Ended.	Quantity	Hygrometer.	Thermometer	
	Fahr.	Fahr.	Fahr	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	30·410	30·437	30·646	30·709	37°·4	41°·0	50°·0	59°·0	27°	31°	38°	32°	32°·5	10	10	10	10	NE 2	NE 1	NE 0	N 0	0	0	0	0	25°	31°				28°	38°	
2	30·685	30·685	30·685	30·685	39·2	41	53·6	47·3	28	32	47	34	37·5	10	6	10	10	NE 2	NE 1	NE 0	NW 0	0	NE 2	0	0	25	43				29	47	
3	30·528	30·536	30·331	30·252	42·8	45·5	55·4	51·8	33	38	52	41	42·5	10	10	10	10	SW 1	SW 1	SW 0	SW 1	0	0	0	0	30	48				20	52	
4	30·211	30·173	30·131	30·040	50	55·4	62·6	59	46	52	65	56	55·5	10	10	10	10	SW 0	W 0	SW 1	SW 1	0	0	0	0	43	62				31	65	
5	30·040	30·040	30·016	30·016	59	69·8	57·2	53·6	56	57	52	48	54	10	10	0	0	N 0	NE 0	NE 0	NE 1	0	0	0	0	52	49	11 A. M	6 P. M.	·05	40	52	Thunder, lightning, and rain at daylight.
6	30·292	30·319	30·315	30·331	50	55·1	51·8	50	40	48	45	42	42·5	4	0	0	0	NE 1	NE 0	NE 0	NE 0	NE 3	0	0	0	36	42			·02	28	45	Passing showers during the day.
7	30·370	30·370	30·383	30·331	50	50	55·4	49·1	42	46	50	45	46	0	3	0	0	NE 1	NE 0	SE 0	SE 0	0	0	0	0	38	46				30	50	
8	30·398	30·398	30·370	30·276	50	51·8	59	57·2	45	19	62	60	53·5	0	0	0	0	SE 0	SW 0	SW 0	SW 0	0	0	0	0	43	59				26	62	Very dense fog before sunrise, cleared at 7 A. M.
9	30·083	30·055	30·016	30·276	57·2	59	60·8	55·4	55	60	60	52	57·5	0	2	0	0	W 0	SW 0	N 0	NW 1	0	0	0	0	52	57		2 P. M.	·02	40	60	Passing showers from 12 M. to 2 P.M.
10	30·001	30·001	30·063	30·095	51·8	55·4	62·6	57·2	44	52	69	53	56·5	0	10	10	0	NW 1	NW 1	S 1	SE 1	0	0	0	0	41	66			·03	24	69	
11	30·095	30·095	30·118	30·079	50	59	64·4	59	50	58	72	54	61	10	10	10	0	W 1	SW 1	SW 1	NW 1	0	0	0	0	46	68				34	72	
12	30·067	30·079	30·079	30·095	53·6	55·4	62·6	57·2	48	52	65	50	56·5	6	10	10	0	NE 1	NE 1	NE 1	SE 0	NE 3	0	0	0	45	59				39	65	
13	30·110	30·110	30·122	30·122	55·4	55·1	64·4	59	47	55	75	56	61	0	4	10	10	SW 0	W 0	SW 1	SW 0	0	0	0	0	41	71				36	75	Foggy before sunrise and morning to 10 A. M.
14	30·123	30·122	30·134	30·083	57·2	60·8	66·2	62·6	54	60	78	62	66	10	10	10	0	SW 1	SW 1	W 0	S 0	0	0	0	0	50	73				32	78	
15	30·004	30·001	30·001	29·9[illegible]5	59	62·6	66·2	59	55	68	76	52	65·5	4	5	10	10	S 1	NW 1	NE 1	SE 2	0	0	0	0	52	71				30	76	
16	30·063	30·063	30·014	30·014	57·2	58·4	62·6	57·2	54	58	62	56	58	6	2	0	0	SE 0	SW 0	NW 1	NW 1	0	0	0	0	50	58				30	62	
17	30·016	30·016	30·044	30·055	55·4	57·2	60·8	53·6	54	56	68	54	61	0	0	8	0	NW 1	NW 1	NW 2	NW 2	0	0	NW 3	0	51	64				27	68	
18	30·083	30·118	30·173	30·173	50	55·4	57·2	51·8	44	48	52	48	48	10	10	6	0	NE 4	E 2	SE 3	NE 2	0	0	SE 3	0	10	48				32	52	
19	30·063	30·095	30·122	30·122	50	53·6	53·6	51·8	44	49	56	50	50	6	8	8	0	NE 2	NE 2	NE 2	NE 1	NE 2	NE 3	NE 1	0	41	52				30	56	
20	30·134	30·122	30·110	30·110	53·6	55·4	57·2	51·8	49	53	58	51	53·5	0	0	4	0	NE 1	NE 1	NE 1	NE 1	0	0	0	0	43	51			·02	30	58	During the previous night.
21	30·014	30·024	30·024	30·055	53·6	55·4	55·4	55·4	48	50	52	51	50	0	0	0	0	NE 0	NE 0	NE 0	NW 1	0	0	0	0	46	48	7 A. M	2 P. M.	·10	31	52	
22	30·063	30·063	30·095	30·095	57·2	59	64·4	59	55	65	72	58	63·5	10	10	10	0	W 1	W 0	SW 1	SW 1	0	0	0	0	51	68				34	72	
23	30·083	30·083	30·083	30·083	57·2	57·2	57·2	57·2	52	56	55	52	53·5	0	0	0	0	SE 1	SE 2	SE 0	SW 1	0	0	0	0	48	52				36	55	Foggy in the morning to 8 A. M.
24	30·131	30·055	30·001	29·898	55·4	57·2	64·4	59	54	60	70	58	62	0	6	10	10	S 1	S 1	SW 1	NW 4	0	S 2	0	0	50	66	9 P. M.		·23	31	70	Thunder and lightning in the early part of the night: high winds all night.
25	29·957	29·957	29·977	29·977	57·2	57·2	66·2	59	54	58	72	62	63	0	10	10	0	NW 5	NW 1	NW 1	NW 1	0	0	0	0	50	68				38	72	
26	29·957	29·977	29·701	29·669	59	62·6	64·4	60·8	56	62	70	63	63	0	10	0	0	N 0	NW 1	NW 0	NW 0	0	0	0	0	52	65			·01	30	70	Passing shower.
27	30·016	30·040	30·010	30·055	53·6	55·4	57·2	53·6	48	56	52	48	50	0	10	0	0	E 2	SE 1	SE 1	NW 1	0	0	0	0	44	48	7 P. M.			25	52	
28	30·083	30·063	30·063	30·063	51·8	53·6	59	55·4	48	50	64	50	56	0	0	6	0	SE 1	SE 1	E 0	NE 1	0	0	0	0	44	60			·07	28	61	Ended before sunrise.
29	30·079	30·079	30·001	30·016	51·8	55·4	66·2	57·2	18	58	71	56	61	10	10	10	10	N 2	NW 1	NW 1	NE 1	0	0	0	0	44	69				36	74	
30	30·079	30·079	30·131	30·118	53·6	55·4	57·2	55·4	51	60	66	51	58·5	10	10	5	10	E 2	SE 1	SE 5	S 6	0	0	SE 3	0	47	62				39	66	
Monthly Mean.	30·113	30·142	30·144	30·129	52·64	55·21	59·81	55·52	47·63	53·23	61·63	51·70	54·63	4·53	6·20	5·90	3·00									44·20	57·76			0.55	31·00	61·63	

METEOROLOGICAL REGISTER.

STATION, Fort Columbus, New York Harbor. Latitude, 40° 42′ North. Longitude, 74° 9′ West. Altitude of Barometer above low water, about twenty-five feet. Kept by JOSEPH P. RUSSELL, M. D., Medical Staff, U. S. A.

1841.	BAROMETER.				THERMOMETER ATTACHED				THERMOMETER DETACHED.					CLEARNESS OF THE SKY.				WIND.				CLOUDS.				WET BULB.		RAIN			HYGROMETER, at 3 P.M		REMARKS.
May.	Sunrise.	9 A. M	3 P. M.	9 P. M	Sunrise.	9 A. M.	3 P. M	9 P. M	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Daily Mean.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	9 A. M.	3 P. M.	9 P. M.	Sunrise.	3 P. M.	Began.	Ended	Quantity	Hygrometer.	Thermometer	
	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.	Fahr.													Fahr.	Fahr.			Inches.	Fahr.	Fahr.	
1	30·063	30·063	30·083	30·083	51·8	55·4	66·2	60·8	52°	61°	76°	61°	61°	10	10	10	10	S 1	SW 1	SW 2	SW 1	0	0	0	0	48°	72°				19°	72°	
2	30·040	30·016	30·016	30·016	53·6	60·8	61·1	60·8	60	68	77	61	68·5	10	10	10	10	SW 1	S 1	SE 0	NE 0	0	0	0	0	56	71				21	77	
3	29·941	29·921	29·622	29·575	55·1	62·6	66·2	61·4	62	70	79	72	70·5	10	10	10	0	NE 1	NW 1	NW 1	NW 6	0	0	0	0	58	75	6½ P.M.			30	79	Very strong north-west wind with thunder, lightning and rain from 6½ P.M. until 1 A.M. the previous night.
4	29·740	29·740	29·803	29·701	62·6	66·2	66·2	62·6	60	68	74	68	67	6	10	10	10	W 1	NW 2	NW 1	W 1	W 3	0	0	0	56	70		1 A.M.	·76	36	71	
5	29·819	29·803	29·858	29·882	60·8	62·6	61·4	60·8	54	62	71	61	64	10	10	10	10	W 1	SW 2	NW 1	NW 1	0	0	0	0	50	70			·03	30	71	
6	29·921	29·819	29·803	29·662	60·8	62·6	62·6	59·0	51	60	64	58	59	10	0	5	0	SE 1	SE 0	SE 5	SW 5	0	0	SE 1	0	51	60	6 P.M.	7 P.M.	·22	30	64	Foggy from 8 A.M. until 1 P.M. Sudden and violent squall at ¼ to 5 P.M., attended by thunder, lightning, hail and rain. Bar. 29·869, Ther. attached 59.—lowest depression.
7	29·685	29·662	29·662	29·819	57·2	59·0	64·1	60·8	56	62	70	61	63	10	10	10	10	W 5	W 6	W 5	SW 2	0	0	0	0	53	66				40	70	
8	29·858	29·898	29·898	29·898	60·8	61·7	64·4	60·8	60	65	68	64	61	10	10	10	10	SW 1	SW 2	SW 0	SW 0	0	0	0	0	58	65				30	68	
9	29·898	29·921	29·921	29·921	62·6	64·1	66·2	60·8	57	64	72	66	64·5	10	10	10	10	NW 1	NW 0	NW 0	NW 0	0	0	0	0	54	70				28	72	
10	30·173	30·173	30·173	30·173	60·8	62·6	62·6	60·8	56	60	64	52	60	10	10	6	0	N 1	W 1	S 3	S 5	0	0	S 3	0	51	60	11 P.M.			31	61	
11	30·173	30·173	30·197	29·819	57·2	59·0	62·6	59·0	50	52	61	56	55·5	0	0	0	0	SE 1	SE 1	SE 0	SE 0	0	0	0	0	19	59		12 M.	·80	35	61	Rain gauge on the roof (elevation 35 ft.) ·65.
12	29·710	29·662	29·528	29·513	60·8	62·6	61·4	59·0	66	70	72	58	69	1	5	10	0	NE 3	NE 1	NW 3	NW 6	0	NE 1	0	0	62	68	12 M.	3 P. M.	·11	40	72	Very strong wind from N.W. with thunder and lightning. Bar. 29·528 inch. lowest depression.
13	30·055	30·055	30·055	30·095	55·1	60·8	62·6	59·0	60	61	71	59	67	10	10	10	0	NW 1	NW 0	NW 0	NW 0	0	0	0	0	58	70				28	71	
14	30·131	30·166	30·213	30·213	57·2	59·0	60·8	59·0	55	58	60	56	57·5	0	0	0	0	N 1	NE 1	NE 0	N 1	0	0	0	0	52	56	7 A.M	11 A.M.	·06	36	60	Rain gauge on the roof, ·01.
15	30·213	30·213	30·173	30·055	57·2	60·8	66·2	57·2	51	61	74	60	62·5	10	10	10	0	N 1	NE 1	NE 0	E 0	0	0	0	0	49	71				28	71	
16	30·000	29·969	29·898	29·898	55·1	57·2	59·0	55·1	58	60	58	51	58	0	0	0	0	SE 1	SE 1	E 0	E 0	SE 1	SE 2	0	0	51	54	6 A. M.	8 A.M.	·03	36	58	Rain gauge on the roof, ·03.
17	29·858	29·858	29·859	29·937	55·1	59·0	59·0	57·2	53	60	60	58	56·5	0	0	0	0	NE 1	NE 1	NE 1	NE 0	0	NE 1	0	0	50	56				38	60	
18	29·977	29·965	29·969	29·969	59·0	59·0	66·2	60·8	56	58	70	60	63	0	0	4	4	N 1	N 2	N 3	N 2	0	N 2	N 3	N 1	53	62				20	70	
19	30·197	30·197	30·158	30·158	59·0	66·2	68·0	62·6	60	61	80	70	70	6	8	8	0	SW 1	SW 1	SE 3	SE 1	SW 2	SW 2	SE 1	0	56	76		10 A.M.	·01	30	80	Begon before sunrise.
20	30·063	30·063	30·079	29·921	59·0	60·8	60·8	59·0	58	60	64	56	61	0	0	0	0	SE 2	SE 1	SE 1	SE 1	0	0	0	0	58	62		3 P. M.	·18	58	61	" " "
21	29·817	29·817	29·902	29·902	60·8	62·6	62·6	59·0	56	59	61	50	60	0	0	10	0	SW 2	SW 2	NW 3	NW 2	0	0	0	0	55	62	9 P. M			40	64	
22	30·378	30·394	30·391	30·391	50·0	53·6	57·2	57·2	40	50	60	50	50	8	8	10	10	NE 1	NE 1	NE 1	SW 1	NE 1	NE 1	0	0	36	56		7 A.M.	·18	30	60	Thunder and lightning greater part of the night.
23	30·398	30·398	30·371	30·418	57·2	57·2	61·7	57·2	50	58	68	60	59	10	10	10	10	SW 1	SW 1	SE 3	SE 0	0	0	0	0	12	64				26	68	
24	30·418	30·378	30·315	30·599	59·0	60·8	66·2	66·2	50	61	80	66	65	10	10	10	10	W 1	W 0	SE 1	S 1	0	0	0	0	16	76				26	80	
25	30·599	30·162	30·059	30·099	66·2	66·2	71·6	73·4	60	72	81	72	72	10	10	10	10	SW 0	S 1	W 0	W 0	0	0	0	0	59	81				21	81	
26	29·992	29·902	29·886	29·886	66·2	68·0	72·5	73·4	60	68	86	68	73	10	1	4	0	SW 1	NE 2	SW 3	S 1	0	NE 1	SW 3	0	58	83				21	86	
27	29·926	29·906	29·886	29·909	68·0	69·8	72·5	69·8	62	76	71	68	68	1	4	1	0	SW 1	SW 2	SW 2	W 1	SW 2	SW 1	SW 2	W 1	58	79	7½ P. M.	9 P. M.	·18	30	71	
28	29·961	29·961	29·925	30·240	68·0	68·0	72·5	69·8	60	72	80	70	70	0	4	4	4	SW 1	SW 2	N 2	W 2	0	0	0	W 2	57	77				25	80	
29	29·961	29·925	30·036	29·951	66·2	66·2	72·5	68·9	60	61	82	62	71	10	10	10	4	NW 1	N 1	N 1	N 1	0	0	0	N 1	57	80				10	82	
30	29·925	30·001	29·965	29·807	66·2	66·2	65·3	65·3	60	68	61	60	62	10	4	0	0	SE 1	SE 2	SE 3	SE 2	SE 1	SE 2	SE 3	0	58	61	3 P. M.	6 P. M.	·40	60	61	·10 in the gouge in the yard, ·25 in the gouge on the roof.
31	29·768	29·729	29·768	30·162	61·4	66·2	66·2	61·4	61	70	68	60	66	0	0	0	0	SE 1	SE 2	SW 0	SW 0	SE 2	SE 2	0	0	63	67	12 M	2½ P. M	·12	56	68	Before sunrise ·02 fell.
Monthly Mean	30·023	30·000	29·983	29·991	59·83	62·17	64·90	62·08	57·00	63·68	71·00	61·18	63·89	6·39	6·00	6·61	3·93									53·80	67·70			3·41	33·16	71·00	

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A Practical Treatise on Midwifery, exhibiting the present Advanced State of the Science. By F. G. Moreau, Professor of Midwifery and the Diseases of Women and Children in the Faculty of Medicine at Paris, etc., etc. Translated from the French by Thomas Forrest Betton, M.D., and edited by Paul B. Goddard, A.M., M.D., Lecturer on Anatomy, etc. With eighty plates, comprising numerous separate illustrations. Philadelphia: Carey & Hart. 1844. 4to. pp. 235.
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TO READERS, CORRESPONDENTS, ETC.

To the Editors of Foreign Medical Journals.—Since the inception of this Journal, we have punctually transmitted each number to certain foreign editors; and among these, some have reciprocated the civility by an exchange. Among those who have not done so, and still continue to extract largely from our pages, we would venture to suggest the propriety of sending their Journals in return.

Communications have been received from Dr. H. H. Steiner, of the U. S. Army; Lt. Edwin R. Long, U. S. Army; and Dr. G. O. Jarvis, of Portland, Conn.

We have to acknowledge the receipt of the following works:

Lectures on the Theory and Practice of Midwifery. Delivered in the Theatre of St. George's Hospital. By Robert Lee, M.D., F.R.S., Fellow of the Royal College of Physicians, London; Physician to the British Lying-in-Hospital; and Lecturer on Midwifery in St. George's Hospital. Illustrated with numerous wood engravings. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1844. (From the Publishers.)

The Cyclopædia of Practical Medicine. Parts VII., VIII., IX., X. (From the Publishers.)

Medical and Physiological Commentaries. By Martyn Paine, M.D., A.M., Professor, etc. (From the Author.)

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Human Health; or the Influence of Atmosphere and Locality; Change of Air and Climate, etc.; constituting Elements of Hygiène. By Robley Dunglison, M.D., Prof., etc. Philadelphia: Lea & Blanchard. 1844. (From the Publishers.)

A Manual of Examinations upon Anatomy and Physiology, Surgery, Practice of Medicine, Chemistry, Materia Medica, Obstetrics, etc. By J. L. Ludlow, M.D. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1844. (From the Publishers.)

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The Principles and Practice of Modern Surgery. By Robert Druitt, Surgeon. With Notes by Joshua B. Flint, M.D., etc. Philadelphia: Lea & Blanchard. 1844. (From the Publishers.)

A Practical Treatise on Midwifery: exhibiting the present advanced state of the Science. By F. J. Moreau, Prof., etc. Translated from the French by Thomas Forrest Betton, M.D., and edited by Paul B. Goddard, M.D., etc. Philadelphia: Carey & Hart. 1844. (From the Publishers.)

Statement of Deaths, with the Diseases and Ages, in the City and Liberties of Philadelphia, for 1842–43. (From Prof. J. Pancoast.)

The following Medical Journals have been received in exchange:

The London Medical Gazette.
The British and Foreign Medical Review.
The Dublin Medical Press.
The Provincial Medical and Surgical Journal.
The American Journal of the Medical Sciences.
The Boston Medical and Surgical Journal.
The American Journal and Library of Dental Science.
The Bulletin of Medical Science.
The Western Journal of Medicine and Surgery.
The Medical Examiner.
The St. Louis Medical and Surgical Journal.
The Illinois Medical and Surgical Journal.
The Western Lancet.
The American Journal of Insanity.

☞ All letters in regard to the *business* department of the Journal, and all remittances of money, should be addressed *exclusively* to the publisher, Henry G. Langley; but books for Review and Communications designed for publication, should be directed, *free of expense*, to Samuel Forry, M.D., Editor of the New York Journal of Medicine, care of Henry G. Langley. Persons at a distance may direct parcels, paid as above, under cover of Barrington & Haswell, Philadelphia, W. D. Ticknor, Boston, and Wiley & Putnam, London.

☞ Postmasters, it will be borne in mind, are authorized by law to frank letters containing money for the subscription of periodicals.

THE NEW YORK

JOURNAL OF MEDICINE.

FOR SEPTEMBER, 1844.

PART FIRST.

Original Communications.

ART. I.—*A Dissertation on the Protective Powers of Vaccinia; being the Essay to which was unanimously awarded the Prize of the Boylston Medical Committee of Harvard University for* 1844. *By the* EDITOR.*

"TO WHAT EXTENT IS THE HUMAN SYSTEM PROTECTED FROM SMALL-POX BY INOCULATION WITH THE COW-POX?

"IS THE PROTECTION INCREASED BY RE-VACCINATION, AND IF SO, UNDER WHAT CIRCUMSTANCES?"

THE first branch of this inquiry—*To what extent is the human system protected from small-pox by inoculation with the cow-pox*—though not admitting, in the present state of our knowledge, of an *absolute* and *unconditional* answer, yet is susceptible of a *comparative* one, which, as regards all practical ends, may be considered as equally definite. As respects the "extent" of protecting power afforded by vaccination against small-pox, the answer of the writer is, *that when perfect, it is as complete a protection as any other prophylactic known to man.* It is a general law that an individual is insusceptible of a second attack of small-pox, and yet cases of recurrent variola are so common, at the present day, as not even to excite our surprise. It is not, however, the less a general law, which, like all other vital laws, is subject to exception. On the other hand, variola after vaccination does also occur; but as this does not happen, when vaccination is properly performed, more frequently than the occurrence of small-pox after small-pox, it follows that the general law is equally active in both cases. Upon this point, however, hangs the whole question ; for, if it can be proved, as it doubtless will be in the sequel of this essay, that the occurrence of small-pox after vaccination is not more apt to take place than after variolation, the conclusion that vaccinia secures as complete a protection against variola as any other prophylactic agent known to man, is a legitimate deduction. Perfect vaccination may, therefore, be considered as equivalent to an attack of small-pox, and vaccinia be regarded as identical with variola, save the greater mildness resulting from its transmission through the cow.

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* According to a standing rule of the Committee, the following is required:

"That the Board do not consider themselves as approving the doctrines contained in any of the dissertations to which the premiums may be adjudged.

"That in case of the publication of a successful dissertation, the author be considered as bound to print the above vote, in connection therewith."

To have a fair comprehension of this important question in its wide relations, it is requisite to view it upon the broad principles of the philosophy of epidemics ; but of the causes of their evolution, no more is known than of the periodical paroxysms of an intermittent fever. A principle of periodicity, both in the diseases and the functions of the body, is observed ; and the prescribed cycles of changes that we thus discover, are also revealed in the diseases of nations. Following laws of their own, they remain nearly stationary, for months, years, and, as we learn from medical records, even for centuries ; then they again arise, suddenly and unaccountably, shedding, like a mist from the earth, desolation over nations—to disappear once more with the same rapidity and mystery, which characterized their advent. But, notwithstanding the latency of epidemic causes, we may determine by observation, the mode of operation and the laws of action peculiar to epidemics, as well as the circumstances which attend their rise, and which exert over them a controlling influence. Small-pox, for example, is admitted, on all hands, to be contagious ; but this principle alone does not explain the rapid propagation of the disease when epidemic. The disease is always contagious, and in this city (New York) it always exists, yet it is only under certain inappreciable circumstances that it spreads. In London, for instance, *five* die weekly when the disease is not epidemic. Suddenly it will become epidemic from some cause to us unknown ; and, in its progress over the kingdom, notwithstanding the greatest irregularities apparently, certain general laws are obvious. The five weekly deaths gradually rise, in London, to 10, 15, 20, and so on to 100 ; here the rate of increase may remain stationary, as though it were the summit of a curve described by a projectile ; and then the decline of the disease is marked by the same regularity of decrease down to the five weekly deaths. This same law has been determined throughout England, by means of the annual Registration of births, deaths, and marriages.

We are told by Humboldt that, in 1520, variola was introduced into Mexico by a negro, the slave of Narvaez ; and here again it is seen that the propagation of this disease is not dependent on contagion alone. From this period, it exercised its ravages throughout that extensive region, at regular intervals of 17 or 18 years ; and notwithstanding European vessels frequently introduced the virus anew subsequently, it never became epidemic, except at these very marked intervals of time. And here may be mentioned the additional and highly interesting fact, that in 1802, during the prevalence of a violent variolous epidemic, it was accidentally discovered that the prophylactic virtues of the vaccine virus had been long previously known in the Peruvian Andes. According to Humboldt, a negro slave had been inoculated in the house of the Marquis of Vallumbroso; but, as the specific effects did not follow, the operation was being repeated, when the man declared that he was sure that he should never have the small-pox, because in milking the cows, he had contracted a cutaneous disease, which, according to the old Indian herdsmen, was caused by contact with certain pustules sometimes found on the dugs of cows Those having had this eruption, said the negro, never take the small-pox. (*Essai Politique sur le Royaume de la Nouvelle-Espagne.*)

The Chinese affect to trace the origin of the small-pox back to a period of more than 3000 years; but the records of this people partake quite too much of the apocryphal character to admit them as substantial data for scientific argument. But as this point is irrelevant to our present inquiry, let us refer to the inoculation of small-pox among this same people, which will throw some light upon the question at issue.

"Inoculation," says William Hamilton, Esq.,* "as a prophylactic against the natural invasion of this complaint, is also said to have been practised in China long before its introduction into Europe; and a fact of considerable importance is connected with this, which merits the more attention from being recorded in a work published many years before Dr. Jenner's discovery of the prophylactic powers of the vaccine virus, and consequently free from all suspicion of being partially related for the purpose of favoring one or the other of the parties into which both the professors of medicine, and the world in general, have been divided with respect to its efficiency in fortifying the system against the invasion of variolous contagion. The fact, as stated in Grosier's own words, is this, that the Chinese place '*less confidence* in the practice of inoculation than the Europeans, and for this reason, because the former are convinced by *numberless* instances, that it does *not* prevent a *return* of the small-pox when it becomes epidemical.' "†

Than this fact there is perhaps no other, either in the ancient or modern history of medicine, more curious. Up to the time of the controversy respecting the prophylactic powers both of vaccine and variolous virus, which directed the attention of European practitioners expressly to the subject, this important truth appears to have wholly escaped their observation; and in the attempt to prove that the human system cannot be rendered, by means of the cow-pox, insusceptible of the variolous poison, they learned a most important fact in addition to being convinced of the truth of what had already been taught them by the experience of the Chinese. They now ascertained conclusively not only that variolous inoculation is insufficient for securing a person from any possible subsequent attack; but, what is still more important, that an individual, even when the disease is communicated naturally, has not secured to him an exemption from a recurrence.

The identity of variola and vaccinia will be still further established in the sequel by reference to direct experiments; but it may be well previously to advert to some general views. That small-pox, measles, scarlatina, glanders, hydrophobia, syphilis, etc., are evidently produced by certain matters, which have not yet been analysed, few are, at this time, disposed to deny; and as these specific matters propagate diseases, either by inoculation and contact (contagion), or by inhalation (infection), it has been, with much propriety, suggested that, for the purpose of reasoning, these poisons, or exciters of well-defined diseases, ought to be specifically designated. Thus the specific matter of small-pox has been termed *varioline*, of cow-pox, *vaccinine*, of measles, *rubeoline*, of hydrophobia, *lyssine*, of syphilis, *syphiline*, of glanders, *equinine*, of cholera, *cholerine*, of hooping cough, *pertussine*, of influenza, *influenzine*, etc. These diseases, contrary to those referred to external causes alone, may, in the cycle of external circumstances through which the human body passes, be developed spontaneously; but, notwithstanding this spontaneous origin of variola, syphilis, etc., which it is impossible always to trace to infectious sources, and for the existence of which in the world, it is impossible to account for on any other principle, these various diseases, when once developed, whether spontaneously or by contagion, possess the important characteristic of communicating their action, and thus causing the same transformations in other bodies. This property of the specific poison has been designated *zymotic*, which is derived from *Ζυμοω*, *I ferment*. This, however, is not to be understood in the chemical sense of fermentation, but merely as a general designation of the morbid process of these exciters.

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* The History of Medicine, Surgery, and Anatomy, from the Creation of the World to the Commencement of the nineteenth Century. By William Hamilton, M.B.

† Grosier, c. i., p. 489.

Upon this zymotic hypothesis, the researches of modern chemistry, and especially by Liebig in his investigations of organic transformations, have thrown considerable light; but Liebig, in his disregard of the agency of the vital principle, has carried his theory quite too far. "Sausages," he says, in the state here described [a putrid state], "exercise an action upon the organism, in consequence of the stomach and other parts, with which they come in contact, not having the power to arrest their decomposition; and entering the blood in some way or other, while still possessing their whole power, they impart their peculiar action to the constituents of the fluid." He thus finally reaches the absurdity of making man a *living cadaver!* He seems, however, in the opinion of his friends, to have opened the way to the explanation of this class of diseases, by a reference to "the phenomena attending the transformations of organic compounds, excited by the action of other compounds simultaneously undergoing analogous transformations."

This, however, is by no means, as Liebig alleges, a new theory, as may be seen most satisfactorily on consulting the English medical classics; for the three great cotemporaries, Sydenham, Morton, and Willis, when the plague and other epidemic diseases were rife, all announced, however much they differed on other points, this zymotic hypothesis as the basis of their pathology. The early medical writers have generally directed attention to the analogies which the diseases here referred to have with putrefaction, fermentation, and poisoning. Morton, in his Pyretologia, calls the morbid principle "*fermentum venenatum*," which, as he alleges, communicates its action like a ferment, from which result perceptible transformation (*mutationes*) in the blood, the secretions, and the tissues. Ebullition and fermentation were used by Sydenham in the same qualified sense, and thus also was the term, which has been translated, *coction*, used by Hippocrates.

But we must here limit our remarks to the morbific principles, *varioline* and *vaccinine*. Among these principles generally, some are fixed and others are volatile, while a third class, to which belongs *varioline*, has both properties; but vaccinine, like syphiline and equinine, is perhaps always fixed. Contagion, however, is not always, even in the instance of varioline and syphiline, the result of their contact; and contagion is, as regards the contact of some of the zymotic principles, the exception rather than the rule. Some persons, for example, have an insusceptibility even to varioline—an immunity attributable perhaps to the circumstance that the morbific principle producing the specific transformation is overpowered by the vital conservative energies; for it is a law of the animal economy, inseparable from the continuance of life, to repel all deleterious agents, that is, to impart to all organic matters brought within its action, its own conservative movements.

For these views we are indebted to William Farr, Esq., in his letter to the Registrar-General of England, in the annual report for 1842; and enlarged and comprehensive as they are, they serve the useful purpose of freeing the trammelled mind from the narrow misconceptions of preconceived opinions.

"Varioline," says Mr. Farr, "is converted in the cow (as Mr. Ceely has shown) into vaccine, and cow-pox affords an interesting illustration of the modifications which diseases undergo, and which may be imparted to them by changes in their exciters. Vaccinine taken from the cow effects the transformation of the *materies morbi* in man almost as completely as varioline; but it reproduces vaccinine; and in the process is never fatal, never produces the variolous fever, and its vapor is never infectious, like that of varioline. The mild form of small-pox which appears in persons modified by previous vaccination, or which follows small-pox inoculation, is an equally good example of the changes induced in diseases by the actual constitution of the individual, and the mode of infection."

The common origin of variola and varioloid is thus very fully sustained upon general principles, without reference to certain special arguments to be yet adduced; and there is good reason to include, in the same category, varicella. As variola, in its general stages, presents a most marked diversity of pathological changes, as fever, vari, vesiculæ, and pustulæ, it must necessarily be subject to a variety of modifications, depending on an arrestation of development at any one of these periods. Hence we find an arrangement, adopted by Erasmus Wilson, Esq., based on these modifications, under the generic designation of *varicella*, which is the diminutive of variola. "When the mode of origin of these various forms of variolous disease," he says, "is considered, it will not excite your surprise to be informed that the eruption is never uniform in character, but that each variety is more or less intermingled with the rest; so that cases may occur in which the whole of the forms may be present upon the same individual."* It is only by such enlarged views that we can hope to arrive at any generalizations; and there is doubtless some foundation for the opinion that too exclusive attention has hitherto been given to the eruptive stage of the contagious exanthemata, thus withdrawing us from other methods of investigation which might lead to more expanded knowledge. Upon this point, Dr. Holland, in his "*Medical Notes and Reflections*," makes the following judicious remarks:

"It will probably be one of the most certain results of future inquiry to associate together, by the connection of causes of common kind, diseases now regarded as wholly distinct in their nature, and arranged as such in our systems of nosology. This remark applies very widely throughout all the genera of diseases; but in no instance so singularly as to some of the disorders of a contagious or epidemic kind; as scarlatina, measles, hooping cough, erysipelas, the infantile fever, dysentery, epidemic catarrh or influenza, etc. Without affirming the *materies morbi* to be the same in any two of these disorders,—presuming it to be different in most of them,—and admitting the diversity of the symptoms,—yet relations there probably are, closer and more peculiar than any which have yet been ascertained, or made the basis of classification. And these are, without doubt, some of the most interesting objects of pathological research."

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* **London Lancet, February 11, 1843.**

But to return to the question of the identity of variola and vaccinia. This identity has recently been demonstrated by experiments scientifically conducted, by infecting the cow with variola, and thus producing the vaccine infection. That the two diseases are one and the same, was the opinion of Jenner, who, regarding the vaccine disease as only modified by passing through the system of the cow, consequently named it "*variolæ vaccinæ*." It is here deemed unnecessary to enter into a detailed account of those experiments. It was first successfully accomplished by Dr. Sonderland, of Bremen; and from the accounts which appeared in the German Journals of 1831, his mode consisted in fastening upon the backs of cows the woollen bed-clothes of small-pox patients, who had died with the disorder in its most malignant form. These experiments have been repeated, in different countries, with a similar result; as, for example, by Dr. Griva, chief of the vaccine establishment at Turin; by Dr. Basil Thiele, of Kasan, in South Russia, and by Mr. Ceely, of Aylesbury, England. In Italy the experiment was tried on a large scale in 1829, when the alarm of epidemic small-pox induced the Piedmontese physicians to make trial of a variety of new stocks of lymph; but the result, according to Dr. Griva, was "that no perceptible difference was to be traced between the aspect and progress of the old and the new, the primitive and the long humanized virus." Dr. Thiele, in 1836, succeeded in the inoculation of a cow, by inserting the virus in the posterior part of the udder, where the animal could not lick it; and from the disease thus produced, inoculation of several children was followed by vesicles having all the characters of the genuine vaccinia; but, as is usual in all cases of vaccine lymph taken fresh from the cow, the constitutional symptoms were more than ordinarily severe. Within two years, upward of 3000 individuals were vaccinated with the virus that had come originally from this source.

Equally satisfactory did the series of experiments, instituted by Mr. Ceely, of Aylesbury, England, prove; and these may be found detailed in the Report of the Seventh Anniversary Meeting of the Provincial Medical Association, held at Liverpool, in July, 1839. Having attempted unsuccessfully to affect cows after Dr. Sonderland's method, he finally succeeded, by means of punctures made in the labia pudendi, in inoculating three young heifers. Much difficulty, in fact, attends this experiment, in consequence of the indisposition evinced by one genus of animals to be acted upon by morbid poisons generated in animals of a different genus. Suffice it to add, that the vesicles, in every respect, corresponded with those delineated by Jenner.

Having thus incontrovertibly established the identity of these two diseases, modified only by the peculiarity of animal constitution, thus showing the *rationale* of the protection afforded by vaccinia, we will now proceed more fully to determine, by actual observation, the "extent" of this protection.

The triumph of vaccination over the dreaded contagion of variola has now been satisfactorily proved by the accumulated experience of nearly half a century. All the obstacles thrown in the way of its triumphal progress by prejudice and ignorance, were finally surmounted; but of late years, as small-pox has shown a tendency to re-assume its formidable ascendency among epidemic disorders, the recurrence of this disease in some who believed themselves guarded against its attack, has unfortunately thrown a doubt over the perfection of its prophylactic powers. But this subject, properly viewed, leads to a very different inference. Even Jenner himself, urged on by the impulsion which animates a discoverer, was too cautious in his deductions, from observing that small-pox itself is no infallible protection against a second attack, to believe that vaccination possesses this power; but this bold assertion was subsequently made by his less judicious followers. Thus it is seen that far too much was expected from its influence by some of the early friends of vaccination. Notwithstanding the vaccinated may possess an immunity, *communibus annis*, experience demonstrates that this prophylactic virtue too often fails in years of epidemic prevalence.

As complete protection depends upon perfect vaccination, it may be well, before proceeding to show its farther advantages, to allude to the causes that may prevent the proper development of the protecting disease in the human system.

A failure, it is said, may arise from vaccinating a child at too early an age, that is, at a period when the system is not yet sufficiently developed to render it liable to the full action of the vaccine poison; but this opinion, if we are allowed to judge of this question by the susceptibility of the infant to variola, is not based upon correct observation. Contrary to what is said by most writers, that the child within the month is almost exempt from an attack, it appears from the Registration of England that, among 8714 persons who died of small-pox in 1839, as many as 202 were within the first month of life. The following table from the Second Annual Report shows the ratios of mortality at all the ages of life of the above 8714 persons, and also the annual rate of mortality at different ages, "calculated upon the assumption that the relative numbers living at the respective ages were the same as in 1821. This is the nearest approximation to the truth that can be obtained, as the ages of the living were not specified in 1831." In the *Annales D'Hygiène Publique et de Médecine Legale*, Tome IX., there is a paper by M. Villermé on Epidemics, in their relations to Medical Statistics, Hygiene, and Political Economy, in which the great probability of there being a direct relation between the mortality of epidemic diseases and the law of mortality according to age, is pointed out. Both results, with the view to exemplify this interesting law, are here presented, as they will again be brought under notice in the sequel.

AGES OF 8714 PERSONS WHO DIED OF SMALL-POX IN 1839.

	MONTHS.						YEARS.				
Age,	0	1	2	3	6	9	0	1	2	3	4
Males and Females,	202	181	162	456	646	588	2235	1524	1197	869	628
Annual Rate of Mortality to 1000 living at each age,							2.73				

	YEARS.										
Age, ...	5	10	15	20	25	30	35	40	45	50	55
Males and Females, . .	1122	206	226	240	148	93	75	43	22	13	10
Annual Rate of Mortality to 1000 living to each age,	.54	.12	.14	.16		.09		.04		.02	

	YEARS.									
Age, ...	60	65	70	75	80	85	90	95	Uncertain.	Total.
Males and Females, . .	19	10	10	4	10	1	"	1	8	8714
Annual Rate of Mortality to 1000 living at each age,	.03		.04		.01		"	"	"	55

In the preceding year, that is, the latter half of it, we learn that one infant died of small-pox when aged but ten days, and three were but a fortnight old; and to this may be added, that even the fœtus in utero is not exempt from variola, which thus becomes a cause of abortion. These united results at least teach us the important lesson not to delay vaccination, at all events, beyond the third month. This is further confirmed by the early deaths at Bath and Liverpool, as appears by the Registration of the latter half of the year 1838:

	MONTHS.				YEARS.										
Age.	0-2	3-5	6-8	9-11	0	1	2	3	4	5	6	7	8	9	Above 10
Bath,	5	7	12	9	33	31	33	17	17	6	4	"	2	"	10
Liverpool,	17	24	42	50	143	127	77	64	24	19	11	4	2	3	25
Total,	22	31	54	59	176	158	110	81	41	25	15	4	4	3	35

It is a matter of serious regret that the medical attendant had not been directed to give the additional information, whether these individuals had ever been vaccinated, and if so, the interval between vaccination and death. We might thus have determined the very important practical question, which is the object of this paper, viz., whether the prevalence of small-pox, in recent years, is due to the diminished influence of vaccination or the progressive decline of its protective power with increasing age.

In the fourth Annual Report, however, a statistical nosology is recommended, which, if carried out in the Registration of the following year, will do much toward deciding the important question at issue. Under the head of small-pox, the following distinction is directed:

"*c.* Small-pox,—after Cow-pox.

"This entry is never to be used unless the vaccination shall have left a cicatrix; nor even then, until thirty days have elapsed after vaccination. It often happens in an epidemic that children are vaccinated after infection by small-pox, which in such cases pursues its natural course, and should be registered '*Natural Small-pox—vaccination performed only — days before the small-pox eruption.*'

"*d.* Small-pox—after vaccination, which did not leave cicatrices.

"State here the time that has elapsed after vaccination: Thus, Small-pox, two years after Cow-pox.'"*

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* We entertained the strongest hope of receiving this new Report in time to use it on the present occasion; but the disappointment of this hope proved of no consequence, since the Fifth and last Registration of England affords no data available or the purpose here indicated.

But to return to the causes which may produce a failure in the vaccinating process. As, however, these points are fully discussed in all works on the subject, a simple reference to them will suffice. The virus may be used before it has undergone sufficient elaboration; vaccination is often performed by unprofessional persons, and not unfrequently carelessly even by the professional man; the constitutional affection may be prevented by totally depriving the vesicle of its lymph; the progress of the vaccine vesicle may be modified by febrile action from whatever cause, or by the complication of all other affections, by which great constitutional disturbance is produced; and there are, also, certain idiosyncracies which secure an impunity not only from the action of vaccina, but also from variola.

It is the uncertainty connected with these causes that renders the results of re-vaccination so very different in different countries; for, as it cannot be known with certainty whether the first vaccination was successful, these statistical reports afford us no safe or conclusive data upon which to build general deductions.

There is also a growing impression that vaccine virus deteriorates in power in proportion to the number of times that it makes the circuit of the human body; and this it is which has led physicians to revert more frequently to the cow for supplies of lymph. But for this opinion, no good reason, and indeed no reason at all, can be assigned. In no respect from that described by Jenner, does the vaccine vesicle of the present day differ; the distinctive signs by which its incubation and progress are marked, are the same now as they were then. The report of the committee of the Medical Society of Philadelphia (*C. J. Coxe*, *Condie*, and *C. D. Meigs*) on this subject, in 1828, is, indeed, conclusive upon this point. It is shown from the condensed opinions of the most eminent and experienced physicians of that city, that their confidence has not at all diminished in the protective power of the vaccine virus; and in confirmation of this opinion, the extraordinary fact is adduced, that, during the prevalence of a most malignant and fatal small-pox, in 1827, but *one* well ascertained death from that disease among 80,000 vaccinated persons, came to the knowledge of the committee.

The recorded statistics of Drs. Mitchell and Bell, relative to the epidemic small-pox which prevailed in Philadelphia in 1823 and 1824, are also in the highest degree favorable to vaccination. Of 248 cases of variola and varioloid treated at the Small-Pox Hospital, 155 were unprotected, of whom 85 died; 64 were vaccinated, of whom but a single one died; 9 were inoculated, of whom 3 died; 7 who had had small-pox before, of whom 3 died; and of the 13 whose condition was unknown, none died.

In Copenhagen, a variolous epidemic prevailed from 1825 to 1827. Of those who had been vaccinated, 428 were attacked; and in 26 of these, all the symptoms of genuine variola were evinced, but only two of them died. Among the unvaccinated, on the contrary, the mortality from small-pox was equivalent to 20 per cent. of those attacked.

In Holstein, from 1801 to 1822, 234,959 were subjected to vaccination, and only two individuals, even two years subsequent to this, had, during all the time, been affected with small-pox. In the kingdom of Denmark, during the same period, only *one* individual among 447,605 vaccinated, had been attacked by modified variola.

Were it requisite, such remarks might be indefinitely multiplied; but it is enough to show, that it is wholly unnecessary to have recurrence to the cow for fresh vaccine virus, or, with the view to resuscitate the qualities of the supposed deteriorated lymph, to resort to the process of variolo or retro-vaccination. Upon these several points the opinion of Mr. Ceely possesses much value. Speaking of retro-vaccination, he says: "Lymph, which has passed from arm to arm with the greatest promptness and facility, and produced the finest effects, in its first removes from the costive vesicle of the retro-vaccinated cow, is not so readily absorbed by many individuals as current lymph. It rarely fails, but papulation is retarded, and though the vesicle may attain maturity at the normal average period, the completion of that stage is frequently postponed. The vesicles are often smaller, and the diseases really not so well developed as by the stock from which it was derived. But these changes do not appear after the second or third remove. The lymph is restored to its former qualities, and produces its former effects."

Mr. Ceely continues: "Is the practice of retro-vaccination of any real value as a means of renovating humanized vaccine? I confess that from my limited experience, I am unable to discover its advantages, or to admit more than its questionable utility, from one transit through the cow. What humanized vaccine might acquire by repeated and indefinite transmissions, I am not prepared to say. I have no doubt that primary vaccine, passed by artificial means through a series of cows, would lose much of its acrimony, and produce on man a milder, but abundantly active and characteristic disease; but that humanized vaccine, by a similar process, should ever acquire all the attributes of primary vaccine, or become so much *brutalized* as to deserve the epithet of 'renewed,' is more than I am prepared to expect."

As regards the effects of *variolo-vaccination*, which consists in inoculating the cow with the virus of variola, the resulting lymph being employed for the inoculation of man, it is questionable how far it may possess advantages, if any, over the ordinary current vaccine lymph. The mode of doing this has been already noticed when treating of the identity of small-pox and cow-pox. But it may be here added that, in one case, in the hands of Dr. Basile Thiele, of Kasan, an attack of true variola was produced by this lymph, and that in another person inoculated in the arm by the lymph taken from the pocks of this patient, vaccine was reproduced. Could there be any more marked illustration of the identity of variola and vaccine than is afforded by this experiment?

Against the general adoption of this proposal, as well as to the immediate recurrence to the cow for the vaccinia, which last, among the variety of epizootic disorders affecting cattle, it is not easy to distinguish, several strong objections exist. When first taken from the cow, the lymph, in both instances, is often very acrid, producing local inflammation and glandular swellings; and, as regards the genuineness of the new stock of lymph, there will always be doubt until the undesirable experiment of variolous inoculation shall have been made. Moreover, years will often elapse before the true cow-pox, even in large dairies, can be found.

We cannot here pass over an extraordinary statement made by Dr. Lichtenstein, as appears from Hufeland's Journal for 1841. The author, in a paper entitled, "On the Sources from which Matter preservative against the Small-pox has been derived," makes the remarkable assertion, that a pock undistinguishable from vaccina is produced in an unvaccinated person who is inoculated with the limpid lymph contained in the pustules caused by tartarized antimony. He further asserts that these pocks are equally protective against small-pox, and that, like it, the lymph may be transmitted from individual to individual. From this source, he actually inoculated and re-inoculated thirty-one persons; and of those, notwithstanding all mingled freely with the infected during the epidemic prevalence of small-pox, not a single one took the disease.*

It remains now to discuss the questions, whether the protective influence of vaccination diminishes in any general ratio to the period of time succeeding vaccination, and whether this law, if true, may not be remedied by re-vaccination. As regards the former question, much diversity of opinion has obtained. Dr. Gregory, who assumes, as the proof of renewed susceptibility to the small-pox, the test of re-vaccination among children, avers that he was unable to succeed in those under ten years of age; and this fact, he says, finds confirmation in the circumstance, that, among the vaccinated within the same age, small-pox does not occur. The statistical facts collected seem to concur in showing, that the ratio of cases of small-pox after vaccination is low before ten years of age; that from the age of 15 to 25, it is at its maximum; and that from this period, it diminishes. In these views, Dr. Leo Wolf and Dr. Mohl of Copenhagen concur. This subsequent susceptibility to small-pox and to cow-pox, is referred by Dr. Heim to the agency of some portion of such susceptibility being left unextinguished by the primary vaccination; and he also regards as connected with this renewed liability, the development of the adult constitution, and perhaps the influence of change of climate. By Jenner, who of course devoted much attention to all questions of this kind, the conclusion, that time produces no such effect on the constitution, was adopted.

Now, assuming it to be an undisputed law, that the constitutional inaptitude to cow-pox denotes a like inaptitude to small-pox, we find that Dr. Gregory's experience in re-vaccination confirms precisely the results just given as to the ratio of cases of small-pox after vaccination, at the three following intervals of age—ten years and under, from ten to twenty-five, and from the last age upward.

Now, it would appear, that, in confirmation of this law, if such it is, a new illustration may be afforded. Reference has already been made on a previous page, when presenting the table containing the law of general mortality, to the probable fact of its being in close relation to the mortality arising from epidemic causes. For example, in a calculation by M. E. E. Duvillard, in reference to this epidemic, prior to the discovery of vaccination, it was found that among the sick there died one in every—

3.0	who were	1	year old,
3.6	"	2	"
5.3	"	3	"
8.1	"	4	"
12.2	"	5	"
17.6	"	6	"

At ten years of age, the mortality became already as low as thirty-four; and as the age of 13 years is the maximum viability (*existibility*), so it is this epoch of life at which an individual laboring under small-pox has the least probability of dying. To the practical physician, both as regards the investigation of disease and its prognosis, the fact that the number of deaths at each period of life, occurs in more or less accordance with the predestined law of general mortality, may at least be treasured up as promising to be a useful guide.

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* Wilson's Lectures on Diseases of the Skin.

There are, however, two exceptions to the general law of mortality in this table of M. Duvillard's, which consist in the comparatively low mortality from small-pox, both at the age below one year, and at the age of thirty and upward; but one of these exceptions, says M. Villermé, from whose paper in the *Annal. d'Hyg.*, *tome IX.*, this table is taken, may prove an error; for, in the small-pox epidemic that prevailed at Copenhagen in 1825–1827, the highest mortality was exhibited by infants under one year of age. This is, in fact, the true law, as is proved by recent data.*

The following table from the Registration of England, illustrates still farther the law of mortality arising from small-pox. In the latter half of the year 1838, this disease destroyed 5,811 lives. Of 1,056 of these deaths, the following were the ages at which they occurred, which may be considered an approximation to the average of the whole:

Years of Age.	0-4	5-9	10-14	15-19	20-29	30-39	40-49	50-59	All Ages.
Deaths.	887	99	15	18	29	5	2	1	1,056

It is thus seen that nearly six-sevenths of the whole number of deaths occurred at the age of four years and under, while at the age of forty and upward, there are but three deaths. This latter fact is then entirely opposed to the opinion that the protective influence of vaccination diminishes in any general ratio to the period of time succeeding vaccination. Indeed, it is proved by all experience from the earliest history of vaccination, that no uniform change in the system gradually destructive of the protecting powers of the vaccine virus, is brought about by time; for, were this so, the evidence of it would be constantly presented in the attacks of the aged by the variolous disease. This table would seem to be entirely opposed to any progressive decline of the protective power of the vaccine virus, were it not that Mr. Farr is of opinion that the majority of these individuals had never been vaccinated, as the great mass were very young at the period of death, and as the poor either neglect vaccination altogether, or at least defer it for years. But upon this point, more precise data will be now adduced.

We shall next, in illustration of the same part of the subject, present a condensed summary of the highly important statistical facts collected by the justly distinguished John Davy, M.D., L. & E., Inspector-General of Army Hospitals, L.R. These data are contained in his excellent work, entitled, "*Notes and Observations on the Ionian Islands and Malta; with some Remarks on Constantinople and Turkey, and on the System of Quarantine as at present conducted.*" London, 1842.

The small-pox was introduced into the Island of Malta by H. M. S. Asia, bearing the flag of Vice-Admiral Sir Pultney Malcolm, which came into the harbor of Malta on the 18th of February, 1830, from Napoli de Romania. The disease spread with a gradually increasing rapidity until the month of July, in which month 1464 persons were attacked. In the following month, in which 1325 fresh cases occurred, there was a slight abatement. It now slowly and gradually subsided until August of the following year, when its cessation was officially announced.

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* See Appendix.

"From its first outbreak," says Dr. Davy, "in March, 1830, to its cessation in August, 1831, 8067 persons were attacked in Malta; and from its first appearance to its cessation, in the adjoining island of Gozo, between April of one year and May of the following, 2284 were attacked; of whom 1172 died in Malta, and 351 in Gozo (making a total mortality of 1523), which is in the ratio of 1 in 6·8 of the number attacked in the former, and of 1 in 6.2 in the latter."

The population of Malta, at this time, was 105,367. The following table is a return of those attacked by small-pox, specifying the sex, age, etc.:

SEX.		AGE.				VACCINATED, ETC.			
Males.	Females.	Infants to seven years.	8 years to 14.	15 years to 28.	Beyond 28 years.	Not vaccinated.	Supposed to have been vaccinated.	Well vaccinated.	Had before Small pox.
4263	3804	2800	2482	2717	68	4850	2720	390	97
Sex of each age.	Males,	1490	1316	1419	38				
	Females,	1310	1166	1298	30				

We here discover, as regards sex, a preponderance on the side of the males, which affords another reference to the general law of mortality. This accords not only with the larger number of males born, and the consequent numerical preponderance of that sex at the period of life most subject to small-pox, but it also gives another beautiful exemplification of the influence of the sexes, as regards births and deaths; for, even before the male infant sees the light of day, there are primary causes inherent in his organization, which are active in his destruction, the ratio of still-born being but two females to three males. And this difference of original organization in the two sexes continues after birth, there being a greater male impressibility, in early life, by agents to which both are equally exposed. This is seen both in the greater number of males attacked, and in the greater number (see next table) that died.

RETURN OF THOSE WHO DIED OF SMALL-POX, SPECIFYING SEX, AGE, ETC.

SEX.		AGE.				VACCINATED, ETC.			
Males.	Females.	Infants to seven years.	8 years to 14.	15 years to 28.	Beyond 28 years.	Not vaccinated.	Supposed to have been vaccinated.	Well vaccinated.	Had before Small pox.
647	525	761	163	241	7	1022	116	25	9
Sex of each age.	Males,	409	86	146	6				
	Females,	352	77	95	1				

Here again we discover the same law as regards the two sexes in the higher ratio of male mortality; and so strongly coincident is this result, both as regards the ratio attacked and the relative mortality, that an exhibition of the general law of mortality at the early ages cannot but be acceptable to the reader. For this purpose we will select the very complete table, showing also the difference of town and country in this respect, furnished by the *Recherches sur la Reproduction et la Mortalité de l'Homme aux differens Ages, et sur la Population de la Belgique. Par MM. A. Quetelet et Ed. Smits.*

RELATIVE MORTALITY OF THE SEXES.

Ages.	Towns.		Relation.	Country.		Relation.
	Males.	Females.		Males.	Females.	
0 to 1 month,	3717	2786	1·33	8180	5769	1·42
1 to 2 "	930	682	1·36	2012	1609	1·25
2 to 3 "	607	500	1·21	1480	1161	1·27
3 to 4 "	532	382	1·39	1192	984	1·22
4 to 5 "	403	322	1·25	968	774	1·25
5 to 6 "	346	329	1·05	831	707	1·18
6 to 8 "	569	508	1·12	1331	1117	1·20
8 to 12 "	1148	1030	1·11	2505	2453	1·02
1 to 2 years,	2563	2409	1·06	4994	4920	1·02
2 to 3 "	1383	1337	1·03	2927	2879	1·02
3 to 4 "	908	908	1·00	1606	1748	0·92
4 to 5 "	556	583	·96	1200	1184	0·99

As it is seldom that tables of the mortality of a whole country give any data below one year of age, this one is doubly valuable; and as it speaks for itself in the plainest language, no further explanation is deemed necessary.

But to return to the two tables of the cases of small-pox and the deaths from the same cause at Malta. The influence of age is found to be strongly marked, the tendency to the disease diminishing with advancing age; and what seems most remarkable, is the almost complete exemption after the age of 28 years. It is also seen that a large number had the disease after supposed vaccination, and that there was not an inconsiderable number of cases of recurrent small-pox. The general mortality, including all ages, was 1 in 6·8 of those attacked, while in infancy, as might have been expected, the proportion was as high as 1 in 3·7; between 8 and 14 years, it was 1 in 15·2; between 15 and 28, 1 in 11·2; and in those above 28 years of age, 1 in 9·7. In the last, the number of data is so small, that the result can scarcely be considered a fair average.

In view of the high interest of these statistical data, the following tables are presented, in further illustration of the relation of age to small-pox:

RETURN, SHOWING THE RESPECTIVE AGE AND SEX OF THE PERSONS WHO DIED OF SMALL-POX FROM THE 16TH MARCH TO DECEMBER 31, 1830.

Years.	Males.	Females.	Years.	Males.	Females.	Years.	Males.	Females.
1	151	154	19	20	7	37	"	"
2	87	57	20	25	12	38	1	"
3	43	31	21	6	5	39	"	"
4	31	25	22	11	12	40	"	"
5	24	22	23	3	4			
6	22	11	24	4	1			
7	11	10	25	1	"			
8	9	8	26	2	2			
9	18	16	27	2	1			
10	8	8	28	1	"			
11	7	5	29	1	1			
12	11	10	30	"	"			
13	11	8	31	"	"			
14	17	14	32	1	"			
15	15	12	33	1	"			
16	10	8	34	1	"			
17	13	8	35	"	"			
18	16	14	36	1	"			

Males,	585
Females,	466
Total,	1051

RETURN OF THE AGE AND SEX OF 91 INDIVIDUALS REPORTED TO HAVE HAD SMALL-POX A SECOND TIME.

SEX.	ATTACKED.				Total.	DIED.	
	Infants to 7.	8 to 14 years.	15 to 28.	Above 28.		15 to 28.	Above 28.
Males,			43	3	46	"	"
Females,			42	3	45	"	"
Total,			85	6	91	9	"

It is to be regretted that we have not also a return of the number attacked at the different ages of life, as this, with the table of mortality of the same kind, would constitute an excellent means of determining whether there really exists a progressive decline of the protective power of vaccinia. There is, at all events, no evidence to sustain the opinion of Dr. Gregory, that there is a renewed susceptibility both to vaccinia and to small-pox among the vaccinated after the age of ten years; on the contrary, there would rather seem to be a diminution of tendency to contract the disease somewhat in the ratio of augmentation of age. As there are but five deaths above the age of thirty, in a total of 1051, it follows that the progressive decline of the influence of vaccination, if such a law does really exist, must make a very sudden halt about the age of 30.*

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* See Appendix.

From the preceding tables, it appears that the mortality among those "not vaccinated" was 1 in 4·7; among those "supposed to have been vaccinated," 1 in 23·4; among the "well-vaccinated," 1 in 15·6; and lastly, among those attacked a second time by small-pox, 1 in 10·8. The higher mortality among the "well-vaccinated" than among those "supposed to have been vaccinated" is an apparent anomaly, which admits of explanation only on Dr. Davy's supposition that the majority of the former may have belonged to the infantile age.

"As regards the general effect of vaccination," says Dr. John Davy, "in its influence both as affording protection from small-pox to a considerable extent, and mitigating its severity when not preventing the attack, the facts given are clear and satisfactory. *It is a curious circumstance, that the proportion of those who died after a second attack of small-pox, was, as has been already pointed out, greater than in the instances of those who had the disease after vaccination.*"

But these highly interesting and important statistics afford a still stronger confirmation of the beneficial effect of vaccination. This is exhibited in the comparative exemption of the British troops serving at Malta, as shown in the following returns:

RETURN OF MEN, WOMEN, AND CHILDREN, BELONGING TO THE TROOPS SERVING IN MALTA, WHO HAD BEEN PREVIOUSLY VACCINATED, OR HAD HAD SMALL-POX.

Sex.	Strength.	Previously Vaccinated.	Had Small-pox previously.
Men,	2219	706	1513
Women,	196	49	147
Children,	315	305	3
Total,	2730	1060	1663

RETURN OF CASES OF SMALL-POX AMONG THE TROOPS.

Sex.	Attacked.	Of the previously Vaccinated.	Had Small-pox before.	Died.	
				After Vaccination.	After Small-pox.
Men,	10	7	4	1	1
Women,	1	1	..	..	..
Children,	3	3	..	2	..
Total,	14	11	4	3	1

As to the deductions warranted by these data, we will allow the philosophical Inspector General of Army Hospitals to speak for himself:

"The native population, in 1830, was estimated at 100,839 persons; amongst whom it appears, from preceding returns, 1 in every 12·1 was attacked with the disease, and 1 in every 85 died; but amongst the military, including their wives and children, the proportion attacked, as shown above, was 1 in 188, and the mortality was only 1 in 682.

"These results, demonstrative of the protecting and mitigating power of vaccination, are the more remarkable, and the more to be depended on, as no precautions whatever were taken to prevent intercourse between the military and the inhabitants. It is true that the majority of the soldiers lived in barracks, but they were not confined to barracks; during the whole time that the epidemic prevailed, they had the usual liberty of going at certain times into town, free from all restriction. And, as regards their families, many of them lived in the close streets adjoining the barracks, and the children mixed freely with other children of the place; notwithstanding, one woman only became infected, and three children—a remarkable fact.

"Reasoning from the facts contained in the preceding returns, the influence of vaccination in preventing small-pox appears to have been less than that of small-pox itself in preventing a second attack,—whilst the mitigating power of the former, compared with that of the latter, seems to have been greater: thus, of those attacked by small-pox, after having been vaccinated, as it was supposed, the mortality was only 4·2 per cent.; but among those who had the disease a second time, the mortality was as high as 9·3 per cent.,—a result which, I believe, is in accordance with common experience, if I may so express myself respecting an event (a second attack of small-pox), which is held to be a rare occurrence. The recurrence of the disease shows a peculiar susceptibility to it,—and on this ground, the severity of its effects has been attempted to be explained. But in such matters, I fear it must be confessed that explanation is commonly unsatisfactory, and that our knowledge is limited by the facts. An instance has been related to me of a lady, the mother of ten children, who had small-pox eleven different times; first in infancy, and subsequently on the occasion of each of her children having it, and what is very remarkable, the latter attacks of the disease were not less severe than the first; no mitigating influence appeared to have been imparted to the constitution even by frequent repetitions of the specific morbid actions peculiar to variola. This information I received from one of the sons of the lady,—an accurate observer himself, and a man of unquestionable veracity."

It were easy from among our notes upon this subject taken within a year or two, to adduce evidence of a like kind, until a mass should accumulate which might be figuratively compared to "Ossa upon Pelion." For example:

Varioloid and Secondary Small-pox.—M. Serres took this occasion to mention, that, from the observation of between 1700 and 1800 cases of small-pox, he has arrived at the conclusion that secondary attacks of small-pox, are as common after small-pox itself, as after vaccination; that, in fact, vaccination has the simple effect of preventing a first attack of small-pox, being merely of the same efficacy in that respect as an attack of small-pox itself.—*Gazette Medicale.*

M. Millon, in the *Bulletin de l'Academie Royale de Médecine*, October, 1842, says, speaking of the epidemic small-pox at Loreze, in 1836, that every individual who had not been vaccinated, became affected sooner or later with the disease, which in them lasted from 15 to 25 days,—a difference in duration that depended on the mildness or severity of the disease. During the prevalence of the epidemic, many who had not been previously vaccinated, underwent the process, which invariably rendered milder the disease. Previous vaccination secured no exemption, but the eruption in these cases proved mostly chicken-pox, and in a few varioloid. To distinguish between the variolous and the varioloid eruptions, was often a difficult matter during the early stage of the disease. This distinction, however, became easy by the seventh or eighth day, for then the varioloid eruption began to dry up, while the variola ran on to suppuration. These eruptions are regarded by M. Millon as essentially the same, the difference arising from the circumstance that the disease in one case runs its natural course, and in the other is modified by vaccination or transformed into the vaccine modification. Vaccination has, therefore, like inoculation, created a new variety of variola. The superior advantages of vaccination are strongly advocated by M. Millon, on the ground that, if it does not always secure an exemption from variola, it effects the more essential object of nearly always depriving it of all danger; while inoculation with the small-pox, on the other hand, not only gives no greater immunity than vaccination, but actually serves to propagate a highly contagious disease, independent of its being not unfrequently attended with death. An important fact is added by M. Millon, as the result of his own observation. While in small-pox, the chief mortality takes place during the suppurative stage, the deaths that occasionally occur from attacks of small-pox, in the vaccinated, frequently happen during the feverish stage, or the first appearance of the eruption; and hence he concludes, that the same person, under the then existing constitutional circumstances, would be equally liable to fall a victim to any other febrile affection.

In several other variolous epidemics, it has been found that among those who had previously undergone the disease, a greater number were seized than among those who had been merely vaccinated. It appears, indeed, according to one of the conclusions of the Commission of Vaccine, in France, in 1839, that the progress of the variolous epidemic is instantly arrested by the simultaneous vaccination of the mass. And as regards the general question of vaccination being followed by small-pox, it may be here added, that it is no ways important to inquire, whether in these cases vaccination had been perfect; for instances are equally numerous in which small-pox has followed variolous inoculation. An infallible remedy in vaccination was not contemplated even by Jenner.

It were an easy matter to exhibit, by a comparison of the mortality caused by small-pox prior to the introduction of vaccination, and subsequently to that event, the most convincing proofs of the triumphs of the cow-pox, as a prophylactic agent. The mass of evidence that has thus been accumulated, finds no parallel in any other question of scientific investigation. As new light has been recently thrown upon this point by James Stewart, M.D.,* who devoted much time in making a personal examination of the records of certain institutions, and especially of orphan asylums, it may be well to present a condensed summary of his results.

Leaving large cities, whose inhabitants are constantly exposed to the numerous causes which produce failure, in the progress of the vaccine vesicle, Dr. S. examined the different institutions for the reception of children. Here, as the greatest care is bestowed on the details of vaccination, it is that we are to look for its fullest benefits, up to the age of fourteen years, which is the average period at which the children are discharged.

"In the Orphan Asylum of Charleston, S. C.," he says, "which, in the year 1829, contained 150 children,' not a single case of small-pox or varioloid occurred during the prevalence of that disease, although no additional restriction was imposed upon their intercourse with the citizens.*

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* *See his Practical Treatise on the Diseases of Children.*

"The aggregate number of children received into the different orphan asylums of Philadelphia, since their establishment to the beginning of 1841, is 1,009, and among the whole, there has been but one death from small-pox; this occurred some years since out of 65 cases of the disease. The children were carefully examined, both with reference to the virulence of the affection, and to their condition at the time of the attack. Ten were without the usual cicatrix left by the vaccine vesicle, and the child that died was one of the number destitute of this mark.

"In the city of New York, the total number received in all the orphan asylums, is 2,384; and although the small-pox appeared in two or three of them, yet it was in a greatly modified form, and no deaths have occurred from this cause. A similar result is obtained also from the House of Refuge, which exhibits an aggregate number of 2,657 children received during 16 years. The whole number, therefore, that have been inmates of these various institutions in the city of New York, is 5,041, and not a single death from small-pox has at any time occurred.

"Baltimore also presents the like return, out of 3,500 children that have been for several years in the alms-house and different orphan asylums of that city.

"The entire number of children, therefore, that have been under the care of the above-mentioned institutions, since their establishment, is 9,550, and but one death has occurred from small-pox in the course of thirty years; and this one, it is fair to presume, had not been vaccinated, as no mark of this operation was found after the most careful examination. The aggregate number that have been received in the above-named institutions amounts at this time, November, 1843, to upwards of 11,000, without any variation in the results of vaccination already stated.

"The results of vaccination thus ascertained, cannot be followed after the children have left these institutions, but up to that time the benefit may be learned by comparing with them the effects of small-pox before the introduction of vaccination; its ravages being principally among the young."

In a note to the end of the volume there are additional statistics, furnished by Dr. Morrell, physician at Long Island Farms (a department of the New York Alms-House), of the cases of varioloid which there occurred from the first of November, 1834, to the first of May, 1843. "From this it appears that of 5,856 children who were received during that period, there were but eight deaths from varioloid, among those in whom it was ascertained that vaccination had been practised. This result, added to that already stated at page 467, exhibits an aggregate of nearly 16,000 children vaccinated, and but eight deaths among them from the effects of small-pox contagion."

As regards the interrogatory—"*Is the protection increased by re-vaccination, and if so, under what circumstances?*—we find the Germans very decidedly in favor of the measure, while the French are, to some extent, divided in opinion. On the affirmative side of the question—those advocating the necessity of re-vaccination—are found the names of Heim of Wirtemberg, Mohl of Copenhagen, Brown of Edinburgh, and Gregory of London. This is a question of very high importance, and one deserving of the deepest investigation. In Prussia an order was issued in 1833, requiring that each soldier entering the army should be re-vaccinated; and this regulation has been in force ever since, and a report of the re-vaccinations has been annually sent to the war-office by the medical officers. To Dr. D. Francis Condie, in his "*Practical Treatise on the Diseases of Children*," we are indebted for the following valuable tabular arrangement of the data accessible relative to re-vaccination:

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* Report of the Committee of the Board of Health of Charleston, etc. Amer. Jour. Med. Sciences, November, 1831.

TABLE I.—RE-VACCINATIONS PERFORMED IN THE PRUSSIAN ARMY.*

	NUMBER RE-VACCINATED.	FAILED.	IMPERFECT.	SUCCESSFUL.
1831	8,804	5,525		3,279
1832	7,716	3,047		4,129
1833	48,478	33,209		16,679
1834	44,454	15,488	12,287	18,136
1835	39,192	23,877		15,269
1836	42,124	14,048	9,940	15,315
1837	47,258	15,393	10,557	21,308
1838	42,041	14,252	8,672	19,117
1841	44,941	13,523	8,635	13,523
Totals	324,468	138,362	50,091	126,755

TABLE II.—AGGREGATE OF RE-VACCINATIONS UPON RECORD, WITH THEIR GENERAL RESULTS.

	Number re-vaccinated.	Failures.	Spurious or Imperfect.	Successful.
Dr. Otto, Germany, 1829 [1833	189	159	9	21
— Heim, Wirtemberg, Army 1829,	4,802	1,724	1,870	1,208
Prussian Army, 1831	8,804	5,525		3,279
,, ,, 1832	7,176	3,047		4,129
,, ,, 1833	48,478	33,209		15,269
,, ,, 1834	44,454	15,488	12,287	16,679
,, ,, 1835	39,192	23,877		15,315
,, ,, 1836	42,124	14,048	9,940	18,136
,, ,, 1837	47,258	15,393	10,557	21,308
,, ,, 1838	42,041	14,252	8,672	19,117
,, ,, 1841	44,941	13,523	8,635	13,523
Dr. Festler, Italy, 1832	60	40		20
— Wendt, Copenhagen, 1832	3,964	1,208		2,756
— Lurott, Bischwiller, 1832	86	43	31	12
— Aggens, Silesia, 1836	962	72	68	822
Vaccine Committee, France, 1839	6,652	4,651	1,283	718
,, ,, ,, 1840	2,214	1,717	227	270
,, ,, M. Villeneuve	2,199	1,976		223
Dr. Forry, Fort Wood, N. Y. 1840	560	364	55	141
— Kirkbride, Philadelphia, 1840	209	165		44
M. Bosquet, Paris	90	53		37
Deaf and Dumb Institution, Paris	128	93	20	15
Total	346,583	150,627	53,654	133,042

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* This table and the following disagree, on account of a transposition of the years; but this does not affect the totals. We have preferred giving them as they are presented in Dr. Condie's volume, inasmuch as it is not easy for us to say which table has the proper arrangement.

TABLE III.—CICATRICES IN THOSE RE-VACCINATED.

	Number vaccinated.	Of these had perfect cicatrices.	Imperfect cicatrices.	No cicatrices.	Re-vaccination successful in
1834	44,454	33,634	7,134	3,686	18,136
1836	42,124	32,635	6,543	2,946	15,315
1837	47,258	37,299	6,903	3,056	21,308
1838	42,041	33,819	5,645	2,577	19,117
1841	44,941	36,182	6,193	2,567	13,523
	220,818	173,569	32,418	24,832	87,399

TABLE IV.—RESULTS OF A SERIES OF SECOND RE-VACCINATIONS.

	Failures in first re-vaccination.	Second re-vaccination.	Successful.	Total. Successful, first and second re-vaccination
1834	15,488	4,530	866	19,002
1836	14,048	14,048	1,569	16,884
1837	15,393	15,393	2,243	23,551
1838	14,252	14,252	2,306	21,423
1841	13,523	13,523	2,254	15,777
	72,704	61,746	9,238	96,637

As regards the ratio of successful cases of re-vaccination, tables I. and II. give very nearly the same result, the former, or Prussian table, giving 39 per cent., and the latter, comprising all known records, 38·4 per cent. Re-vaccination, as shown by table IV., proved successful in the ratio of 1 to 12·7 cases.

These results afford conclusive evidence of the necessity and importance of re-vaccination, under all possible circumstances. Prior to the order for re-vaccination in the Prussian army, it was not unusual for the different barracks to be a prey to varioloid disease; but now the whole army, notwithstanding its repeated exposure to similar causes productive of the disease, enjoys an almost entire immunity.

In the results of re-vaccination in the Prussian army for 1840, by Dr. Lohmeyer, published in the *Medicinische Zeitung*, April 21, 1841, he draws the following conclusions:

"In the past year more frequently than in any other, the vaccination was performed by lymph taken from the genuine and regular vaccine pustules on adult persons; for past experience has consequently led military practitioners to be more strongly convinced that for the vaccination of adults, lymph taken from adults is to be preferred to that taken from children, and that it produces a more powerful re-action and more strongly developed pustules. And that the pustules thus produced do actually protect from the contagion of small-pox is proved by this, that in the 4th corps, in which the plan has been long followed of vaccinating adults with lymph taken from good pustules in other adults, there has not occurred during three years a single case of any variety of small-pox among those in whom the vaccine pustule ran its ordinary course, nor more than one case among those who were unsuccessfully re-vaccinated, although small-pox was constantly more or less rife in the neighborhood in which the corps was quartered.

"With respect to the advantage of re-vaccination as a preventive of small-pox, the experience of 1840 proves it in a striking manner; for during that year there occurred only 74 cases in the whole army; and of these, 46 were cases of varicella, 21 of varioloid disease, and only 7 of genuine small-pox. Of the last, 2 proved fatal; and neither of the patients had been re-vaccinated after his enlistment. In general, just as in former years, most of the cases of genuine and of spurious small-pox occurred in recruits soon after their enlistment and before they had been re-vaccinated. Of those who had been re-vaccinated, it has been already stated that only 10 were affected; and of these 7 had varicella, 2 varioloid disease, and only one genuine variola."—*British and Foreign Med. Review.* Jan. 1842.

The results of the Prussian Army for 1841, are equally favorable toward re-vaccination. In the Berlin *Medicinische Zeitung*, May, 1842, the following extract accompanies the Report:—

"Among those vaccinated in 1841, two were affected with varicella, and eight with varioloid disease. That vaccination sometimes only succeeds after having been several times had recourse to, was observed in this as well as in former years. The proportion of cases in which this occurred was as 19 to 100. A soldier who had been three times vaccinated during the three previous years, and always unsuccessfully, had six well-marked pustules after the operation was performed, which would show that some temporary influence had formerly prevented the formation. The influence of re-vaccination in the diminution of variolous affections in the different military hospitals, is most remarkable. In 1841 there were only fifty cases, of which 15 were varicella, 34 modified, and 10 true small-pox. Three died; of these, one had not been vaccinated on his admission into the army, as his vaccine certificate showed that the operation had been done shortly before he joined; the second occurred in a recruit, who had not been re-vaccinated; and the third was a non-commissioned officer, who had been re-vaccinated some years before, but without success. Before the order for re-vaccination was issued, the different barracks used to be a prey to varioloid disease; it has now, however, disappeared."—*London and Edinburgh Mon. Jour. Med. Sci., May*, 1842.

We have also the results of the re-vaccination in the Hanoverian Army for the years 1837-8-9; but as they are strictly confirmatory of those of the Prussian Army, the following extract from the *Hannoversche Annalen*, Heft ii., 1840, must suffice:—

"Among the confirmations which this Report affords of the conclusions arrived at by Professor Heim (*Historich-kritische Darstellung der Pockenseuche*), are the following:—The cicatrices of former vaccinations afford, neither by their number nor by their characters, any indication of what will be the result of re-vaccination. A repetition of re-vaccination, after previous failures, not unfrequently produces a complete or an incomplete result. The lymph of good pustules, after re-vaccination, is in no degree inferior for the purpose of re-vaccination to the lymph from children. *In those who have had variola, the susceptibility of re-vaccination exists in no less a degree than in those who have been vaccinated;* for of 112 pitted with small-pox, 16 received complete re-vaccination, 21 incomplete, and 75 none at all, that is, in nearly the same proportion as among the vaccinated. On the contrary, it appeared that after varioloid disease scarcely any were susceptible of re-vaccination; for of 34 such who were re-vaccinated, one only showed any result, and that was imperfect, affording an additional proof that variolois is an actually varioloid disease, a re-variola."

It was before remarked that in France the profession is somewhat divided upon the question of re-vaccination. According to the Annual Report of the Vaccination Committee of France, in 1839, of 6652 re-vaccinations, which were carefully watched, a pustule, similar to the normal one, was observed in 718 cases; in 1283, the pustule was of a doubtful character; and in 4651, the operation failed completely. The following are the general conclusions of the Committee:—1. It thus appears that a large majority of persons are not capable of contracting vaccinia twice, and consequently that re-vaccination is generally useless. 2. Even when re-vaccination has had a positive result, it has not always protected the person from the contagion of variola. 3. Re-vaccination, at least as a general measure, is disapproved of by most medical men, on the ground that the confidence of the public would be shaken, by thus exhibiting a want of faith on the part of the medical profession. 4. It is maintained that the vaccine virus has undergone no change by having been transmitted through a multitude of persons. 5. The immense majority of the vaccinated, though in immediate contact with those that were suffering, remained unaffected, either by the sporadic or the epidemic variola. 6. Vaccination has unquestionably continued, in the epidemics of small-pox, which have occurred in different departments, to possess the power of arresting the evil, by reducing the genuine variola to varioloid disease.—This is certainly a very inconsiderate Report; and it was strongly opposed by some members of the Academy, on the ground that it was too decided and peremptory. It was remarked by M. Bousquet that, from his own experience, he could say that a perfect normal pustule was induced in 30 among 138 cases of re-vaccination. Of 90 persons of Versailles vaccinated by him, in 37, genuine vaccine pustules followed. M. Piorry suggested that re-vaccination might possibly protect from the varioloid, as the first vaccination does from variola itself.

In the last place, we shall give our own experience upon the subject of re-vaccination, based upon 686 cases, a detailed account of which was published in the *Amer. Jour. of Med. Sci.* for April, 1842.* For the present purpose, the following extracts will suffice:—

"As regards the data constituting the basis of this paper, it may be remarked that they were furnished at Fort Wood, in the harbor of New York, which offers, from the circumstance of its being a depôt for recruits, great facilities for prosecuting inquiries in relation to vaccination. On an average of the last five years, 1800 recruits have annually passed through this post, all of whom it is necessary to re-examine, with a view to physical and mental defects, and every one of whom ought, without reference to previous vaccination, variolous inoculation, or natural small-pox, to be vaccinated. Acting upon this opinion, the writer, while stationed at this post (from May to November, 1840), subjected every recruit, except the few vaccinated at several of the recruiting stations, to the influence of vaccine virus. Previously, it was customary to vaccinate those only who did not exhibit marks of variola or distinct cicatrices of prior vaccinia. In the cases comprising the statistics now presented, two punctures were generally made in each arm with fresh virus (crusts), obtained from the Surgeon-General's Office, or matter (either crusts or lymph taken on the eighth day), procured from subjects just vaccinated. The register was kept with as much accuracy as practicable. Some difficulty was experienced from the ignorance of individuals, some having no knowledge of any difference between small-pox and cow-pox. The results now presented are intended, without deducing any general conclusions, merely as a contribution toward the mass of statistical facts already furnished by different countries of Europe.

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* This title was left blank originally, on the ground of secrecy. Each dissertation is accompanied with a sealed packet, having some device or motto, enclosing the author's name and residence; and as this is opened only in the case of the successful candidate, the names of all the other writers who can get back their essays with the sealed packets, remain unknown.

"Of the 686 recruits vaccinated at Fort Wood, 285 were natives of the United States, 242 of Ireland, 81 of Germany, 49 of England, and the remaining 29 of other countries. This fact is of no farther importance than as showing the general character of the persons subjected to the operation. The majority belonged to the humbler walks of life; some there were who, by dissipation or extravagance, had reduced themselves from a higher sphere in life to the necessity of enlisting; while the Americans who fill the ranks, are, with scarce an exception, such as have proved themselves unfit for the trusts of civil life. The mean age of all (excluding 40 boys with an average age of 15) was 25 years.

"Of the total (686) vaccinated, 560 had been previously vaccinated, 74 had had small-pox naturally, and 52 had not been inoculated either with the vaccine or variolous virus, and had not had the disease naturally. It is thus seen that these statistics are not entirely restricted to cases of re-vaccination.

"Among the series of questions put to each recruit was this one,—'Have you ever been exposed to the contagion of small-pox?' And to this interrogatory, among the 560 previously vaccinated, 371 answered in the affirmative, and 189 in the negative. Of the former, 39 had, according to their own views, which were corroborated by the pitted condition of the face, suffered from small-pox in a modified form: but some of these, perhaps nine, averred, upon traditional authority, that they had taken the disease at or about the period of vaccination in infancy. Although we admit that vaccination is by no means an invariable prophylactic against an attack of small-pox, yet it must be borne in mind that it is impracticable to determine, whether the systems of persons having variola or varioloid subsequently to vaccination, had been fairly and fully subjected to the influence of the cow-pox virus.

"Of the 560 previously vaccinated, 381 exhibited good cicatrices; in 134, they were indistinct or imperfectly developed; and in 45, no cicatrix was visible, the operation in these last having, according to their own assertion, succeeded imperfectly, or after two or three trials, failed.

"Of the total vaccinated (686), perfect, regular, and well-formed vesicles followed in 188; and in 63 besides, the characteristic marks, with some anomalies, were exhibited. In these last, in some the specific inflammation proved very violent, the vesicle, instead of drying into a hard scab, being converted into an ulcer; and in others, which was the larger proportion, the vesicle became prematurely red and itching, forming a conoidal pustule, which contained, instead of a clear and transparent lymph, an opaque fluid, surrounded by a slight areola of irregular shape; and the succeeding scab, which was small, dropped off prematurely. In these latter cases, it is presumable that the individuals possessed a partial immunity from small-pox.

" But it is necessary, in these statistics, to distinguish the previously vaccinated, the unvaccinated, and those who had labored under variolous disease. Of the 560 previously vaccinated, 196 took the disease on re-vaccination, including those cases (55) which, from the irregular process of the vesicle, have been regarded as affording a partial protection from cow-pox. Of these 196, 109 had been previously vaccinated before the age of five years, 48 between the ages of 5 and 10, and 39 subsequently to the latter age. To determine, then, the period during which vaccination gives a " charmed" life, it is necessary to institute a comparison between these and the whole number vaccinated. Thus, of the 560 previously vaccinated, 316 took place before the age of 5 years, 133 between the ages of 5 and 10 years, and 111 after the latter period.

" Hence it follows, though not an exact result, that, as the ages of the great majority of the men ranged from 20 to 33 (the average being 25 years), and as the ratio of successful re-vaccination is very nearly the same after each interval of age (being about one-third), the limit of the protective powers of cow-pox is not restricted to any precise number of years. These relative ratios among the 560 previously vaccinated, may be thus represented:—

	Under 5.	5 & under 10.	10 & upward.	Total.
Number of vaccinations, ...	315	133	111	560
Number of successful re-vaccinations,	109	48	39	196

" Of the seventy-four individuals, who had previously suffered from small-pox in the natural way, twenty-nine now exhibit the genuine vaccine vesicle. Of these twenty-nine, twelve had distinct marks of small-pox on the face, trunk, and extremities, nine were slightly pitted, and eight presented scarcely any perceptible scars. A German, *æt.* twenty-six, who is much pitted and scarred, and who shows a well-marked cicatrix of a successful vaccination, at a period of his life prior to the varioloid attack, now exhibits genuine vaccinia. A Pole, *æt.* twenty-nine, has a good cicatrix, having been vaccinated when six years old, and although often exposed to the contagion of small-pox with impunity, has now true vaccine pustules. Two other individuals, one *æt.* twenty-seven, and the other thirty-two, both vaccinated before two years of age, and both often exposed to the variolous contagion with impunity, have now genuine kine-pock. An Irishman, *æt.* twenty-four, says that he underwent inoculation with the virus of small-pox when four years old, and shows four or five imperfectly marked pits on the face, which appeared, he avers, at the same time. Although often exposed to variola with impunity, he now presents the true vaccine disease. An American, *æt.* thirty-three, has no cicatrix of vaccination; he avers that the operation, which was performed several times, invariably failed, and that he has been on board ship with 200 cases of small-pox without contracting the disease; and in the present instance there is again a failure. While the last is a case of natural insusceptibility of small-pox, being one of those rare diatheses which enable persons to pass through life apparently insensible to the variolous and vaccine poisons, the preceding cases show a condition of the system termed the *variolous diatheses*, which favors the phenomenon of recurrent small-pox.

"Of the fifty-two unvaccinated, the operation succeeded perfectly in twenty-five. Some of these were registered as unvaccinated merely because no cicatrix was visible; but the absence of this cannot be taken as absolute proof that the individual had never been vaccinated.

"It has generally been regarded that a distinct, circular, punctulated, and not very large cicatrix, affords a pretty certain indication that the vaccine affection is perfect; but the data here presented do not show that the system which has this cicatrix, is more secure, after a lapse of fifteen or twenty years, against secondary vaccine disease, than those constitutions in which the cicatrix wants these distinctive characters. This conclusion is deduced from the fact, that the two kinds of vesicles here reported as succeeding re-vaccination, viz., the *perfect* and the *anomalous* (the former being supposed to indicate the *complete*, and the latter the *partial* protective influence), followed in about an equal ratio in the cases of *distinct*, *indistinct*, and *invisible* (those alleged to have disappeared) cicatrices. In each of these three classes of scars, the perfect vesicles averaged about one in every four re-vaccinated; and the anomalous vesicles maintained the mean of about one in every ten. It has already been established in Europe by statistical facts, that the character of the cicatrix does not enable us to determine how far the variolous or vaccine disease supervening will be modified; and this opinion, reasoning upon the doctrine that cow-pox and small-pox are identical in their nature, is corroborated by the data just adduced.

"It would appear that the following laws have been pretty clearly determined: 1. When the interval between the primary and secondary vaccination does not exceed five years, the skin seems entirely insensible to the vaccine poison. 2. After an interval exceeding ten years, the virus most commonly irritates locally, a scab forming on the eighth day, which, soon falling off, leaves no permanent cicatrix; and 3. In another class of cases, after the same interval, the second vaccination runs a perfectly regular course, the lymph being found to propagate a good and genuine cow-pock. Now, as it is generally admitted that the susceptibility to be affected by vaccinia, indicates a similar liability to variola, and *vice versâ*, it is presumable, when re-vaccination is followed by a genuine vesicle, that the individual is equally subject to the influence of the miasm of small-pox. If the two viruses are equally destructive of each other and such they doubtless are, it follows that the first class of cases above described will effectually resist the cause of small-pox; that, in the second, the disease would be much modified; and that, in the third, under circumstances favorable to the development of the variola, the malady might exhibit all the virulence of its unmodified form.*

"From a general view of all these facts, it may be concluded, as an approximation to the truth as near as such imperfect data will allow, that, among the 560 cases of re-vaccination, 364 retained complete protection and 55 partial immunity, while the remaining 141 had entirely lost the protective influence."

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* Dr. Jenner himself, in his *original* essay, announced that in the human body the susceptibility to cow-pox is, after a time, renewed. *Cyc. of Pract. Med., art. Vaccination.*

What surprised us most, at the time of conducting these experiments, was the unexpected result of a higher ratio of successful vaccinations among those whose scarred and pitted faces spoke too plainly of the ravages of the fell destroyer, than the re-vaccinations among those who had been *simply vaccinated!* The whole may be thus arranged:

	Cases.	*Successful.*	*Imperfect.*	*Failures.*
Vaccinated,	560	141	55	364
Previous Small-pox,	74	29	"	45
Unvaccinated,	52	25	"	27
Total,	686			

It is thus seen that the successful vaccinations among those who had had small-pox amount to 1 in every 2½, while, in the re-vaccinations, this ratio is only 1 in every four. At the time, we doubted the truth of these results, believing that the number of those having had the small-pox or perhaps varioloid (74) was too small to constitute a fair average; but since then, the evidence of which appears in this paper, our doubts have been entirely removed. Thus, in Dr. Davy's statistics at Malta, it is shown that although the influence of vaccination in preventing small-pox, was less than that of small-pox itself in preventing a second attack; yet of those attacked by small-pox after having been vaccinated, the mortality was only 4·2 per cent., while the cases of recurrent small-pox gave a mortality as high as 9·3 per cent. A like result, it has been also seen, occurred, according to Drs. Mitchell and Bell, at the Small-Pox Hospital at Philadelphia, during the epidemic of 1823 and 1824; for, while but a single person died out of 64 vaccinated, three died out of 9 who had been inoculated with variola, three died out of 7 who had had small-pox before, and of 155 wholly unprotected, 85 died. And it may here be added in reference to the small-pox epidemic, which, during 1840, attacked in France 14,470 persons, of whom 1668 died, that out of 24 cases of recurrent small-pox, three died, while out of 406 persons attacked subsequent to vaccination, but six cases proved fatal. (*De Claubry.*) The conclusions deduced from the data of this report are: *First.* That small-pox finds a prophylactic in the regular vaccine infection; but that the protection is not absolute, as a small portion of the vaccinated are still liable to an eruptive disease, known by the common name of varioloid. *Secondly.* While small-pox has a mortality among the unprotected of 1 in 8½, the varioloid affection is generally mild, seldom destroying more than 1 in 100.

In the results of re-vaccination in the Hanoverian army, it has likewise been seen that the susceptibility to the vaccine virus is about equal in those previously vaccinated and in those previously affected with variolous diseases. Indeed, the majority of the most recent writers incline to the opinion, that vaccination is more powerful in modifying small-pox than a previous attack of small-pox, either natural or inoculated. But after all, we feel inclined to put most faith in the following table quoted from Dr. Heim, which places small-pox and cow-pox on an equality:

Vaccinated after small-pox with success	32
" " modified	26
" " without effect . . .	42
	100

Re-vaccinated with success	34
" modified	25
" without effect	41
	100

We are disposed to believe with Jenner that when the system can be fully infected with the vaccine disease, a protection is afforded against the occurrence of small-pox, which will remain unimpaired with the continuance of life. But, at the same time, experience has established the fact that among a given number apparently successfully vaccinated, there are some in whom, from the various and not well-determined causes which interfere with the success of vaccination, a certain degree of susceptibility to variolous infection would seem to have been left unextinguished, and which appears to augment partially with the lapse of time. That re-vaccination exerts a powerful influence in diminishing these varioloid diseases, by giving to the system a new protection, has been abundantly proved by the statistics of re-vaccination furnished by the German states. As the mere admission of a possibility of a decline of the vaccine influence, shows the obvious necessity of re-vaccination, there remains no other question to be determined than the periods proper for the performance of the operation.

Re-vaccination, in truth, promises us more than one advantage. Simple and harmless in its operation, contrary to variolous inoculation which serves to propagate the disease itself, it will determine, if the vaccinated person is susceptible of its influence, in the first place, the unprotected state of the system, and, in the second, the future protection of the individual. But to determine precisely the length of time that the system is protected, is a question that does not admit of solution in the present state of our knowledge. From the preceding facts relating to this point, we are led to infer, more especially in considering the physiological changes which are known to be constantly occurring in the system, that the existence of this protecting influence has a variable period. *Let our object, therefore, be to secure, at every period of life, the perfection of vaccination.*

"You must bear in mind," says Erasmus Wilson, Esq., "that the greatest safety against small-pox that man can enjoy, is the possession of that modified constitution that succeeds to the fever of small-pox. Experience teaches that the amount of eruption is of little consequence, as much benefit flowing from the benign, as from the most confluent kind —from inoculated as from natural small-pox; and I have no hesitation in declaring that as much protection as small-pox can bestow, is derivable from perfect vaccination."

"I should advise," he continues, "that vaccination be repeated every seven or every ten years. If the system receive not the inoculated virus, it may be regarded as protected, and no inconvenience results to the subject of operation. While, on the other hand, if the operation be successful, the inconvenience will be temporary and trifling, but the advantages great."

The epidemics of small-pox, which have appeared in various parts of Italy during the last few years, have afforded Italian practitioners an excellent opportunity of studying many points connected with it. All the medical men, and M. Tommassini in particular, agree in stating that the persons attacked were either adults or individuals who had been vaccinated for many years previously. When the disease occurred in children recently vaccinated, it was a simple varioloid or varicella. From the facts thus observed, the celebrated professor of Italy concludes that the preservative influence of vaccination lasts about ten or twelve years. Hence, he advises that re-vaccination should be had recourse to after the lapse of this period.—*Prov. Med. Jour.*, April 29, 1842, from *Il. Ra. Med.*

In the *Annales D'Hygiène*, for July, 1837, Tome XVIII., there is an extended paper entitled "*Histoire d'une Epidémie de Variole, etc., par M. Charles Roesch*," in which the following directions as regards re-vaccination, and of which we highly approve, are given:—

1. To submit to vaccination all individuals who have not been vaccinated, even when they have had variola;

2. To repeat the vaccination ten or twelve years after the first vaccination;

3. If this re-vaccination does not prove successful, it will be necessary to repeat it from year to year until complete success shall follow;

4. Should the re-vaccination prove entirely successful, the disposition to contract small-pox ought to be, for many years subsequently, excessively feeble; but, notwithstanding this condition of the system, that is, an individual successfully re-vaccinated, a proper exercise of prudence would require, after ten or twelve years, a second re-vaccination.

Now, this is a philosopher after our own heart. We go upon the principle, *that the more you vaccinate the better.* We have re-vaccinated ourselves annually for the last ten or twelve years, but the year of our complete success has not yet come; and we regard ourselves, judging from the fact of repeated exposure, as entirely protected against the variolous poison. If individuals are successfully vaccinated in childhood, all facts would seem to prove that there is no necessity for re-vaccination before the tenth year of age; and the same data lead to the conclusion that the most suitable age is from the period of puberty to that of confirmed manhood. Our own opinion is that vaccination should be repeated at the age of 15 years or earlier, and again at 25. After this last period, as man seems to acquire, with the advancing years, a natural inaptitude to variola, there would seem to be no farther necessity for vaccination.

It is thus obvious, from a survey of the preceding facts, that the benefits of vaccination, instead of being manifested in a universal exemption of the vaccinated from an attack of small-pox, are shown in an immense saving of human life, and in the disarming of this loathsome scourge of its terrors. Although vaccination, as well as variolous inoculation, is a discovery which attests the wonderful powers of the human mind in unfolding the secret provisions which a beneficent Nature has provided for the mitigation of her most baneful pestilences, yet the history of vaccination unfortunately proves that the sanguine anticipations of its early advocates—that Nature has thus furnished us with a means adequate for the complete extermination of small-pox from the face of the earth—are vain and illusory. But notwithstanding the results of time have shown the error of these premature assumptions, yet the benefits conferred upon the human family are sufficiently great to place the name of JENNER among its greatest benefactors—a judgment in which the physicians of all the world are unanimous. That good and evil shall be blended, is a general law of our physical and moral nature, to which the history of small-pox and vaccination offers no exception. In a word, how unrequitable are the obligations of the human family—of countless generations yet unborn—to him who, eliciting this mysterious secret from the dark recesses of rural tradition, rendered it available to all human kind!

APPENDIX.

In these additional remarks, made since the decision of the Boylston Medical Board has been announced, it is intended to furnish some confirmatory statistical data from the Fifth Registration of England, of the deductions made in the preceding pages.

DEATHS BY SMALL-POX IN ENGLAND, AT 14 PERIODS OF LIFE, IN THE TWO SEXES, BOTH IN TOWN AND COUNTRY.

AGES.	0-1	1-3	3-5	Under 5 years.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 and upwards.	?	All Ages
a Males,	411	603	290	1304	138	15	17	44	22	6	“	“	“	“	“	“	1546
Females,	401	571	242	1214	150	16	13	22	9	2	“	“	“	1	“	“	1427
b Males,	57	50	29	136	21	3	5	11	1	3	“	“	“	“	“ “	“	181
Females,	48	64	29	141	21	4	4	5	2	2	“	“	“	“	“	“	179
c Persons,				472	77	12	18	27	6	12	“	“	“	“	“	“	“
Males,				232	39	5	11	20	2	7	“	“	“	“	“	“	“
Females,				240	38	7	7	7	4	5	“	“	“	“	“	“	“
d Males,	1393	2246	761	4400	1082	737	56	148	“	“	“	“	“	“	“	“	“
Females,	1597	2285	1096	4978	847	317	113	121	“	“	“	“	“	“	“	“	“

The first two lines, marked *a*, represent the deaths, for the year 1840, by small-pox, in twenty-four town districts of England, at fourteen periods of life, in each sex.

The second, marked *b*, represents the same for 1842 for London.

The third, marked *c*, shows the number of each sex, out of 100,000 persons born in the Metropolis, dying from small-pox at twelve periods of life.

The fourth, marked *d*, shows, out of 100,000 dying in the Metropolis, the number of each sex dying from small-pox.

It is thus seen that the strongest confirmation is here afforded of the preceding results relative to the mortality, at different ages, from small-pox. The greatest mortality by far, as much, in fact, as five-sixth, occurs before the age of five years, while above the age of fifty there is but a single death; and this is in corroboration of the preceding inference, that, if, according to Dr. Gregory, there is a progressive decline of the influence of vaccinia in the human system, it is very suddenly arrested about the middle term of life.

The relative mortality in each sex from small-pox in towns and the open country, is accurately compared in the Fifth Registration for 1841. Thus:—

Cause of Death.	Males.		Females.		Total.	
	Districts of 25 Towns.	Districts of 7 Counties.	Districts of 25 Towns.	Districts of 7 Counties.	Districts of 25 Towns.	Districts of 7 Counties.
Small-pox.	790	163	685	124	1,475	287

The towns here referred to have an area of 666 square miles, and the counties of 9,532 ; and of inhabitants, the former has 1,883,693, and the latter, 1,700,484. Three other comparisons are made upon a much more extended scale ; and the general result is as follows :—" By small-pox the mortality was twice as great in the towns as in the country districts (1045 and 507)."

These data are in confirmation of the well-known fact, that small-pox is much under the influence of causes other than those of contagion ; and this same fact is also established by the following data.

It appears that the annual mortality from small-pox, in the four years, 1838–41, presents considerable fluctuation. In the following table, the first line gives the total annual deaths, and the second, the annual number of deaths to 1,000,000 living in each of the four years.

	1838.	1839.	1840.	1841.
Deaths, ...	16,268	9,131	10,434	6,368
Number to a million living,	1,101	604	678	408

An attempt is also made to exhibit the influence of the seasons upon the mortality of small-pox ; but, unfortunately, these results are comparatively useless, inasmuch as they represent the four "quarters" of the year instead of the seasons. As winter certainly means the three coldest months, it should consist, instead of the first quarter of the year, of December, January, and February ; for December, as a general law, has a lower mean temperature than March. The same remark applies to summer, which, for the opposite reason of a higher temperature, should begin with June instead of ending with September. Thus, as regards the influence of the seasons, a great defect is presented in the Registration of England ; and these incomplete but laborious results comprehend the most elaborate tables relative to births, deaths, marriages, and diseases, extending over 324 districts.

Art. II.—*On some Diseases of the Os Uteri, and the Mode of Investigating them.* By C. R. Gilman, M. D., Professor of Obstetrics in the College of Physicians and Surgeons, New York.

Although the diseases of the Os Uteri are so common that there are few practitioners who do not frequently meet with them, yet it is not to be denied that the diagnosis of these affections is not generally well understood ; and consequently the treatment is often unsatisfactory, both to practitioner and patient. This state of things is not to be attributed to the difficulties of the subject; for, with our present means of investigating the state of the os uteri, the detecting of its diseased states is easy and the diagnosis far from obscure; neither is it chargeable to any want of importance in the affections of the part, for few practitioners but are aware that they often embitter and not unfrequently shorten the lives of those who are affected with them. The true reason why these diseases are not thoroughly and familiarly understood by the mass of the profession, is that the proper investigation of them is *exceedingly disagreeable* both to the patient and the physician. It requires a certain amount of moral courage in the practitioner to propose, and a degree of right-minded intelligence in the patient to submit to, the method of examination by which alone a sound opinion can be formed.

That the sex have a natural and, while kept within certain limits, a laudable reluctance to submit to exposure of the person, every one knows; but this can and ought to be overcome, and if the necessity of the examination is fairly and fully put before the patient there will be no trouble.

That this is not oftener done is probably owing to the fact that many practitioners are not fully aware of the value of such modes of examination; not that they have never heard of them, but rather that they shut their minds against a truth which they are unwilling to believe. They have imbibed prejudices against the speculum; it is, in their minds, connected with indecencies, *French immorality, &c., &c.*; they have perhaps denounced it as improper or, it may be, as immoral, and they are unwilling to retreat. We all know how strongly prejudices and the sense of having committed themselves operated, and in certain quarters still continue to operate, against the stethoscope.

Now as the objections to the speculum are much more plausible, we need not wonder that very intelligent men, even some of the lights of the profession, restrict the use of the instrument to an exceedingly small number of cases, or perhaps proscribe it altogether.

How is this prejudice to be overcome? Plainly by bringing clearly and frequently before the eye of the profession the value of this mode of investigation, and the very satisfactory results that can be obtained by resorting to it. These considerations have induced me to devote a paper to the subject of the diseases of the os uteri, with special reference to the modes of investigating them. I have nothing very new or startling to offer to the quidnuncs of the profession; my aim is to aid in the establishment of known principles, and to increase the confidence of plain practical men in a mode of investigating and treating these diseases with which they may not be familiar.

Modes of examining the Os Uteri.—These are the touch, and the use of the speculum. On the former I have but a few words to say; upon the latter it may be advantageous to enlarge a little.

The touch; position of the patient. For the examination of the diseased os uteri, the erect is always best, as it brings the organ more completely within reach and facilitates in every way the investigation. In practising "*the touch*" none of the following points are to be neglected; upon each the practitioner must obtain definite and thorough knowledge; the size, the shape, the position of the organ, the state of its surface, whether rough or smooth, and the degree of sensibility to pressure. The facility with which these several elements of diagnosis are made out will, of course, depend upon the degree in which the practitioner is familiar with the feel of the parts in their natural state; and here, perhaps, the younger members of the profession will permit one who is no longer young, to urge upon them the propriety of making themselves early familiar with the feel both of the vagina and rectum. If it were proper in this place to enlarge upon this subject, I could illustrate its importance by referring to some strange mistakes in diagnosis, which depended entirely upon the practitioner's not having *educated his fingers*.

As to the size and shape of the os, it is well known that they vary remarkably as the woman has or has not borne children. Varieties will also be found among individuals of each of these classes. Experience and a thorough investigation of the other features of the case will enable us to decide, whether, in any given case, the deviation should be considered morbid.

Irregularity of shape in a marked degree is morbid.

The State of the Surface.—This can be made out but imperfectly by the touch; any cleft, cavity or marked roughness should induce us to resort to the speculum. As to the *sensibility* of the os, any complaint of pain on moderately firm pressure, indicates the presence of disease; in the normal state, such pressure gives no pain whatever; if pain, therefore, is complained of on pressure, *disease exists*; the rule is, I think, without exception.

Position of the Organ.—The symptoms of simple prolapsus are well known. Upon that part of the subject I need not dwell; but it may be proper to state, that prolapsus uteri is very often a mere symptom of some other and more formidable disease. Let not the practitioner, then, content himself with having diagnosticated prolapse, and putting the woman under treatment for that alone; rather should he investigate further, and see whether it is not symptomatic of some other affection. A certain degree of prolapse accompanies almost all the congestive inflammations of the uterus; it also attends fibrous tumors of the posterior wall, polypi, &c.

Use of the Speculum—Varieties of the Instrument.—These may be arranged under the two general divisions of

1st. Those composed of two or more blades.

2d. Those composed of a single piece—a simple cylinder.

Of the bladed speculums, the one which is, I think, the most used in New York is the speculum of Weiss. The three blades, whose divergence opens the instrument, are placed conically, so that the stretching of the vulvo-vaginal orifice must be very great before the os is exposed at all, and if the latter be much enlarged, the speculum must be so far opened that the distension and pain at the vulva is excessive. This constitutes a great objection to the instrument. The same remark applies to the French three-bladed speculum, sometimes, though improperly, called Mad. Boivin's, the stretching being greatest at the vulva, where it is least wanted, and where it gives most pain. For this reason, I prefer the valvular speculum, either Ricord's or that of Charriere. Being constructed on the principle of the double valve, and the joint placed one or two inches from the vulvar end of the instrument, it is opened at the uterine extremity, by compressing that portion which is embraced by the sphincter vaginæ; in this way we get a very perfect exposure of the os and cervix, without any painful stretching at the vulva. The instrument I use, when fully opened, gives at the uterine end an expansion of nine inches circumference, while at the vulvar it is barely five. One objection applies, however, to this, and to all other speculums with branches; they are expensive, and only to be obtained of skilful instrument makers. This, of course, restricts the use of them; but we have the less reason for regret on this account, as most of the advantages of the speculum can be secured by the use of the simple cylindrical instrument. It is to these simpler and cheaper forms of the speculum that I wish particularly to direct the attention of the mass of practitioners, in the hope that, as they are within the reach of all, all may be persuaded to make trial of them.

These cylindrical speculums, made either of metal or glass, are generally like the bladed ones, very conical, and of course open to the objection of stretching the vulva painfully. It was, I believe, Mr. Fenner, of London, who first proposed the cylindrical speculum of the same size throughout. As to the material, although metal has some advantages over glass, yet the readiness with which glass cylinders can be everywhere obtained, and the facility with which they are kept clean, should, I think, make us prefer them. The instrument should not be more than five inches long; the great length of Recamier's tubular speculum is an objection to it. The diameter must vary; some cases admitting and requiring a large one, others only one of small size. Every practitioner should be provided with four sizes, the diameter to be 1 inch, 1¼ inch, 1½ inch, and 1¾ inch. Instead of the wooden plug which is commonly attached to the metallic speculum, a bit of sponge of proper size, covered with oiled silk and fastened to a handle six or eight inches long, will answer perfectly well. Any practitioner can readily make for himself a very good speculum by taking the common glass lamp chimney, coating a quarter of an inch of the lower end with wax, and fitting a handle with the sponge and oiled silk. Such an instrument, though homely in appearance, will enable the practitioner to do very well without the more elegant, more complicated, and more expensive metallic speculum.* I am very sure that if those who have never used the speculum, will only consent to make trial of the simple form of instrument which I have here recommended, in one single case of disease of the os uteri, the satisfaction they will derive from being, by its aid, enabled to substitute a rational and often positive, for the vague, conjectural, diagnosis they may have before formed, will establish this mode of investigation in their minds as one of the most valuable practical aids. When we have exposed, by means of the speculum, the os uteri to view, we often find it covered with discharge which prevents our forming an accurate notion of the state of the surface. This may sometimes be removed by a bit of lint or soft muslin tied to a stick. If, however, there is inflammation, and especially if we suspect erosion or superficial ulceration, it is best to remove the discharge by throwing, very gently, a stream of water upon the part from an India rubber bag and pipe, or from a small syringe; this will cleanse the surface without irritating it, and thus enable us to judge accurately of the color of the part.

Diseases of the Os Uteri.—Occlusion or Stricture.—Dr. Mackintosh of Edinburgh first distinctly called the attention of the profession to this malformation as a cause of disorder of the menstrual function and to dilatation as a means of cure. In some of his cases the occlusion seemed to have been the cause of dysmenorrhœa, in others of amenorrhœa with violent symptoms, both of constitutional and local irritation. In all, very marked relief was afforded by dilating the os by bougies, the process being conducted just as a similar one is resorted to, for the cure of stricture of the urethra. Although Dr. Mackintosh's success was very remarkable, he having cured 24 out of 27 cases, and 11 of these cured, having subsequently become pregnant; yet his paper does not seem to have made any strong impression on the profession. Waller in his lectures doės but allude to it, and Churchill speaks of the cures as probably not dependent on the dilatation of the stricture. I do not know that the cases have been mentioned by any other author. Now although the views of Mackintosh have been thus slighted, there are certainly some facts long known to the profession which would be very satisfactorily explained by adopting his opinions on the etiology of dysmenorrhœa. For example, every one has met with cases where child-bearing has cured dysmenorrhœa. Writers before the time of Mackintosh were content to veil their ignorance of the cause of this influence of child-bearing under vague generalities about "changing the state of the organ;" exactly what was changed or how, they did not pretend to know. Now admit the theory of Mackintosh, and all is clear and simple. Occlusion or stricture was the cause of the dysmenorrhœa; the passage of the child's head effectually removed this, and a cure of the dysmenorrhœa was the natural result. Again, we often meet with cases where women remain barren for many years, then have a child, and afterwards continue to bear children frequently and rapidly, and this without any marked change in the general health. Here the connection between the cause and effect is not so obvious; yet it would be difficult to suggest an explanation more plausible than, that the original difficulty was stricture, that under peculiarly favorable circumstances it was once overcome—that the subsequent delivery removing the obstruction, impregnation was easily and promptly effected. Influenced by these considerations, I was induced to adopt Mackintosh's practice soon after his cases fell under my notice; and the result has been so favorable, that I feel warranted in calling the attention of the profession strongly to the proposed plan of treatment.

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* For this suggestion I am indebted to my friend Moore Hoit, M. D., of this city, who made for himself a very good speculum in this way.

I have resorted to this practice in both single and married women; and although in some cases the relief has not been perfect, yet in all a certain measure of improvement has resulted, and in the great majority, a perfect cure has been obtained. I will append a case or two, both to illustrate the subject and that I may incorporate into one of them, an account of the manner of performing this little operation. The whole mode of manipulating is in Mackintosh's work, but perhaps that may not be in the hands of all the readers of the Journal.

Case I. "Mary ———, an Irish servant girl, aged 25, has suffered from dysmenorrhœa ever since she began to menstruate. Has been subjected to every variety of constitutional treatment. On examination per vaginam, I found the cervix pointed, the os exceedingly small, and admitting with difficulty a probe the size of a stout knitting needle. I placed the patient in the upright position, the back against the wall of my office; then introducing the fore finger of the right hand, I made the tip of it rest upon the minute os uteri. I then passed with the left hand, a metallic bougie of the proper size up along the finger till the point of it rested upon the os; retaining it in this position by the finger of the right hand, I rotated it with the left, gradually and cautiously projecting it forward till it passed into the cavity; cautiously and gently, I advanced it till the point touched the fundus; of this I was aware both by the impulse communicated to my left hand and by the exclamation of the patient; after allowing it to remain for a moment, I withdrew it, rotating the shaft as before and always acting with the greatest gentleness. The operation, though it alarmed and agitated the young woman a good deal, was not at all painful, and the subsequent repetitions of it caused no trouble whatever. These repetitions to the number of three or four, were followed by a less painful lustration, and when, after a few more trials at intervals of a week, the os would admit a bougie, the size of an ordinary quill, no further trouble was experienced.

Dysmenorrhœa with Leucorrhœa.—Mrs. M——, aged 29, married eight years. Soon after her marriage she had a violent attack of acute vaginitis; and when relieved, leucorrhœal discharge was kept up, and the menstrual function was imperfectly and painfully performed. Injections checked the leucorrhœa, but it frequently returned; constitutional treatment was tried for the dysmenorrhœa without any good effect.

On examination with the speculum, the os was found small, the posterior lip somewhat enlarged and a little tender; a single scarification of the os, aided by rest and frequent cold vaginal injections, removed the inflammation in two weeks. I then attempted to pass a bougie into the cavity of the uterus; for a long time I was foiled; it passed very readily about an inch or rather less, but at that point the occlusion seemed perfect. By frequent and patient trials, I at last cleared the obstacle: the subsequent dilatation was easily and pretty speedily effected. In three months the patient was perfectly cured, menstruating freely without any considerable irritation. She passed from my care soon after this, but I have heard that she has since conceived.

It is needless to multiply cases, but I will give one more from the practice of my friend, Dr. W. C. Roberts, who has kindly favored me with it.

"J. Drynder, colored, aged 25 years. This woman began to menstruate at 13 years of age, and did so with extreme pain until the period of her marriage, after which the severity of her suffering underwent some diminution. The first day of her menstrual period always incapacitated her from the duties of her station. She had been married over two years without ever having conceived, when I had some conversation with her on the subject, and proposed to adopt Mackintosh's plan (of which I had had some previous experience), both as a means of relief to the dysmenorrhœa, and as affording a hope of future impregnation. To this she consented. With the speculum, I introduced a small conical elastic bougie into the os externum uteri; it struck immediately, at the depth of an inch, or an inch and a half, against a fleshy fundus, and could only with difficulty be made to advance to the fundus uteri. By degrees, I passed the next sized bougie, and finally one about the size of a number six catheter, with ease quite to the fundus uteri, a depth of three inches. No irritation followed any of the operations; no pain was ever experienced; and she considers now, that she obtained excellent results on terms to which she would again cheerfully submit. Eight sittings only, sufficed to allow of the complete dilatation of the os internum uteri, where I supposed the stricture to exist. The last was on the 12th of August, 1843. She menstruated twice afterwards, entirely without pain, and on the 2d of this month, July, 1844, I delivered her, after an easy labor, of a fine boy. I do not know which is better pleased with the result, the physician or the patient; and, if a single case can prove anything, this must in every point of view be deemed conclusive."

Conjestive Inflammation of the Os Uteri.—Cases of this sort are, as I have already hinted, very commonly confounded with those of simple prolapsus: indeed, it is very difficult in any case, and in not a few quite impossible, to diagnosticate the two affections without a vaginal examination. Some, indeed, require the use of the speculum to establish the diagnosis positively. A degree of prolapsus almost always accompanies long continued congestion of the os, and is dependent on it. Some authors tell us that we can recognize prolapsus by the complete relief which the recumbent posture affords—a relief which cannot be thus obtained if congestion or inflammation exists. This is a mistake. The recumbent posture affords marked relief in all the simple inflammations of the uterus. In all such cases, then, we resort to the touch; and if this does not fully enlighten us, we use the speculum. On vaginal examination by the touch, we must expect to find the os lower down than natural; prolapsus, in fact, existing as I have before said, but only as a symptom of the congestive inflammation. If, then, with the malposition, we find the lips enlarged, hotter than the rest of the vagina; and, above all, if pressure causes pain, we may be well assured that inflammation exists. In some cases, the lips are large and yet not tender, and the increased heat is not very decidedly observable. Here the speculum is required; by its use we get a more exact idea of the size of the os and lips, and we can tell whether the color is more intensely red than in the normal state. If the organ is of a deep red, if the surface is marked with red vessels, congestive inflammation is present, and should be met by appropriate treatment. Before doing anything in the way of treatment, however, we should carefully and, if necessary, *repeatedly* examine the part with a view to ascertain whether any erosion or ulceration exists, as the treatment required for simple congestive inflammation may well be inappropriate, and perhaps injurious, if ulceration be present. First on the list of remedies for a congestive inflammation of the os, the local abstraction of blood is justly placed. This may be effected either by leeches to the part or by scarification, or where neither is practicable, which *ought* never to be the case, cups to the sacrum or leeches to the abdominal ring, may be tried; they form, however, but poor substitutes for the more direct forms of depletion. I prefer scarification. Its advantages are: *first*, it is at all times, and under all circumstances, attainable; *second*, it is easily and speedily performed; *lastly*, we avoid the danger of an awkward accident which occurred to a friend of mine, one of whose leeches crept into the cavity of the uterus; luckily, he did not attach himself there; but had he done so, and become gorged, it might have been a very difficult matter to rid the organ of the troublesome guest. Scarification gives no pain or uneasiness; I have scarified the os uteri so freely as to obtain several ounces of blood without the patient being aware of it.

Lest the manner of performing this little operation should not be familiarly known to all my readers, I would say that I use a common thumb lancet fastened to a bit of stick. With this, having brought the os full and fairly into the field of the speculum, I make long light gashes through the mucous membrane, proportioning the number of them to the amount of blood I desire to withdraw. If a very free depletion is desirable, I *cross cut* the lips, and make the patient place herself, immediately after the operation, in the warm hip bath, injecting from time to time a little of the water into the vagina. In this way I think I have obtained from six to eight ounces, though the quantity must always be matter of conjecture. One of my patients, who usually menstruated freely, told me that she was sure she lost more than she was accustomed to part with at "her turns"—"*much more.*" It will not often be necessary to repeat the scarification sooner than a week. In the interval, the patient should keep quiet, remaining in the horizontal posture as much as possible, live low, and take one or two cooling purgatives. Rest in the recumbent posture is, in all such cases, so very important that, unless the patient will obey us in this matter, it is hardly worth our while to undertake the treatment of the case. Another very simple and yet very important adjuvant to sanguineous depletion, is the use of vaginal injections of cold water. The patient should make free use of this means of cure, injecting from eight to twelve ounces of cold water into the vagina three times a day; when employed to this extent, the remedy is one of great value. As commonly used, it is nearly or quite inert. These are all the means which are ordinarily required to control congestive inflammation. By steady perseverance in their use, more, far more, will be effected, than by the occasional and irregular use of a variety of remedies. When the case proves obstinate, the organ continuing large, hard and somewhat prolapsed, though the heat, redness, and tenderness on pressure have disappeared, a resort to counter-irritation by a perpetual blister over the sacrum will often extinguish the disease. It should be kept running two or three weeks at least. At first it may, in some cases, seem rather to aggravate the symptoms; even in such instances, however, good will often result from a continued use of this remedy. But I find these discursive notes extending beyond the limits to which I had proposed to confine myself; I must, therefore, reserve some observations on the various ulcerations of the os, and the modes of treatment, which they seem to me to require, for a future occasion.

ART. III.—*Case of Protracted Galactirrhœa.* BY HORACE GREEN, M.D., of New York.

MANY instances of preternatural lactation, occurring in females, have been given by medical writers; and not a few cases are on record, where an abundant secretion of the lacteous fluid has taken place in the breasts of men, when, under peculiar circumstances, these organs have been stimulated into action.

In all cases, however, with one exception, so far as I have been able to ascertain, from an examination of the different writers on this subject, where copious lactation has been present in females of an advanced age, it has been reproduced by the repeated application of nursing children to the breasts. In the Medico-Chirurgical Review, for July, 1832, Dr. Kennedy has collected some cases of this nature, and has also appended an interesting "account of a woman who gave suck to children from the *twenty-fifth* uninterruptedly to the *seventy-second* year of her age."

In this case of Dr. K's, the individual was not confined to the nursing of her own children; for "besides giving her breasts freely and frequently to the young ones of her neighbors, she suckled six children of her own, and eight nurslings." Undoubtedly, therefore, preternatural lactation, in this instance, was encouraged, and in a great degree kept up, by the repeated application of stimulus to the nipples, through the nursing of many children.

In the following case it will be found that copious lactation has continued for many years, in the absence of this natural stimulant of the lacteous glands.

Mrs. T. V., a highly respectable lady of this city, is at the present time forty-seven years of age. She is robust, and, with the exception of an attack of gastralgia from which, two years since, she suffered for several months, has enjoyed good health during many years. She is the mother of four children, the youngest of which is fourteen years old. She was married young, but she had no children until some two years or more after her marriage. During this period, and for some time previous to her marriage, her breasts at the return of each menstrual period, would become greatly distended, and a discharge "like water" would flow from the mouths of the lactiferous ducts.

At the usual period, after the birth of her first child, which occurred when she was about twenty years of age, there was an abundant flow of milk into the mammæ; and from that time to the present, there has been a copious, and an uninterrupted secretion of milk, during a period of nearly thirty years! Between the births of each of her children, there intervened a period of just four and a half years. Free lactation continued, after the first delivery, not only through the unimpregnated interval, but during gestation; and it was often in sufficient quantity, as she asserts, to have afforded nourishment to two children, instead of one. In order to dispose of this abundant flow of milk, her children were permitted to nurse for an unusual length of time, and they "used to follow her about the house," as she remarked, "for the breast, until they were so old, that she was obliged to whip them off to their play." After weaning each child, it became necessary, as no method employed for the purpose had any effect to check the secretion of milk, to have her "breasts drawn," until the birth of the subsequent child.

As before remarked, it is fourteen years since she gave birth to her youngest child, and she has been nine years a widow; yet, up to the present day, are her breasts supplied with milk, quite sufficient to afford full nourishment to any infant. Three years ago, I attended her oldest daughter, who, at her first confinement, gave birth to twins. One of them died soon after birth, greatly to the disappointment of the grandmother, who, had they both lived, intended to have nourished one of the grandchildren from her own breast. The surviving child, as well as another one, to which the daughter gave birth two years after her first confinement, have both, at different periods, during the temporary illness of their own mother, or in her absence, been often supplied with abundant, healthy nourishment from their grandmother's breasts!

It is well known that in deficient or disordered menstruation, as well as in diseases of the ovaria, a secretion of milk will occasionally occur when the patient is not pregnant. In the case of this lady no evidence, whatever, of a morbid condition of the uterus, or of any of its appendages, is present.

At the end of two years, after the birth of each of her children, her catamenia re-appeared, and they continued to recur regularly until interrupted by a subsequent pregnancy. Their appearance, in like manner, occurred two years after giving birth to her youngest child; and each month, since that period, has the menstrual discharge returned, regularly, up to the present time. The only effect which the presence of the catamenia has had upon the flow of milk, has been to increase greatly this secretion for the time being. Such, indeed, has been the amount secreted, at these periods, that it has been necessary for her to have large quantities of her milk drawn off to relieve the distended glands.

At the present time, Mrs. V. is in the enjoyment of excellent health. Her person presents all the embonpoint of a young lady of eighteen; whilst the different organs of the system are, evidently, in the full and healthy exercise of all their functions.

Her condition in life being such as to render it unnecessary and undesirable to nurse the offspring of others, her greatest trouble, apparently, arises from the difficulty of disposing of the flow of milk, which still continues to be freely secreted by the mammary glands.

ART. IV.—*On the Isolated Tumor (Tubercle) of the Uterus, commonest in the posterior Wall.* By WM. C. ROBERTS, M. D.

WITH the great frequency of the fibrous tumors, improperly called by certain authors, the fleshy tubercle, every one engaged in female practice is, doubtless, fully aware. I design in the following remarks to draw attention to the fact, equally often met with, that tumors, *probably* of similar structure, exist isolatedly in different parts of the uterine parietes, and give rise to many of the symptoms of which females so commonly complain. They are frequently met with in the *anterior wall.* Lisfranc (Bull. Gen. de Ther.) mentions a case of this kind, attended with antiversion, and many more might be cited. But it is much more common to find these isolated tumors occupying the *posterior wall* of the uterus, sometimes in the cervix itself, and oftener in the body above the neck. I do not hesitate to say that the liability of the female to this particular form of disease, is neither appreciated by the profession, nor alluded to by those who have written, *ex professo*, on the diseases of females. I have mentioned the circumstance to many, even experienced practitioners, who have not been aware of its existence, and Clark, Boivin and Dugès, and Churchill, will be consulted in vain upon the subject.*

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* In Dr. Ashwell's paper, in the 1st vol. of the Guy's Hospital Reports, there are given three cases in which the tumor was thus situated, but no especial allusion is made to its frequency. CASE 30th. Patient, *æt.* 49. Duration of disease, 3 or 4 months: a hard body occupying the superior part of the cervix and lower portion of the posterior wall of the uterus, the os fissured. CASE 31st. Patient, *æt.* 25: a tumor of schirrous hardness, situated low down on the posterior cervix of the uterus.

The credit of having directed the attention of the profession to this fact, to which I hope in this article to give greater notoriety, is due to Lisfranc (Mal de l' Uterus). He observes: "A tumor is occasionally formed in the parenchyma of the uterus, *whose nature is little known, but which is deserving of attention. Its most common seat is the lower portion of the posterior wall.* A raised and rounded tumor is felt there, one half of which is imbedded in the wall of the uterus; its diameter varies from that of a 25 cent piece to that of a dollar, and the outline can be more or less distinctly felt. To the touch it has neither the softness of vesicular, nor the hardness of fibrous polypus. It is sometimes insensible; at others, more or less tender. *The rest of the organ is quite healthy.* It is difficult to determine the nature of the tumor with any precision during life. Is it carcinoma; the result of partial inflammation; a white, schirrous, indurated point; a polypus; a cyst; a cartilaginous or calcareous concretion?" To these queries, may we not add, are they not fibrous (fibro-schirrous) tumors? Ashwell evidently so considers them, grouping all under the general denomination of "hard." Lisfranc continues: "It is not necessarily fatal; by arresting the inflammation, degeneration has been prevented. Sometimes, they entirely disappear; at others, become small and indurated, and cease to affect the general health." Blundell (Obs. on Principal Dis. of Females) observes, that he possesses "a specimen which consists of a single tubercle growing from the posterior surface of the uterus, which would ultimately have troubled the patient much by bearing on the rectum and parts adjacent." The following case, extracted from the *Clinique des Hop.*, is interesting in two points of view. It furnishes, as far as a single case can go, a reply to the queries of M. Lisfranc, as to the nature of tumors thus situated, and is the only instance on record in which a tumor has been removed from the outside of the uterus, by simple excision. "A woman, aged 25, had, for 18 months, a weight in the pelvis, and near the cervix uteri, pain in the thighs, knees, and loins, with red and white discharges. M. Dupuytren discovered a *non-pediculated fibrous tumor, developed in the thickness of the posterior wall of the cervix uteri.* He decided to remove it, and seizing the tumor by its lowest part with Museux's forceps, while it was pushed downward by the finger of an assistant, introduced into the rectum, he drew it down and made a semi-elliptical incision on the anterior part of its base and a similar one at its posterior part. It was then easily detached with the handle of the knife. Its tissue was dense and *fibrous*, and it seemed at some points to approach the characters of cellular tumors; a serous fluid escaped from these points when incised. An abundant hemorrhage occurred for some hours afterwards, The patient at first appeared to do well, but gradually sunk and died in a month after the operation."

I have already observed that the nature of these isolated tumors is still *sub judice*. In a recent publication by Lisfranc, entitled "Practical Considerations on Fibrous Tumors of the Uterus, their Diagnosis, and Treatment," in the *Bull. Gen. de Therap.*, March, 1843, I find these remarks: "It is important to know whether, when rounded and circumscribed tumors are met with in the thickness of the uterine tissues, these tumors necessarily belong to fibrous bodies. For me, these rounded tumors may

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Case 32d. Patient, *æt.* 32. Duration of disease 3 years: a tumor just above, encroaching on the cervix, at the posterior part of the uterus, as large as a hen's egg; not so hard as schirrus. (Ashwell, loc. cit.)

be the result of a local hypertrophy, with induration of the uterine tissues, the consequence of inflammation." Again: "I conclude that there are, in the thickness of the uterine tissues, knobbed, uneven, hard and circumscribed indurations, which are often confounded with the fibrous bodies of that organ, whereas their point of departure is a partial hypertrophy of the uterus, which, constituted of anatomical elements susceptible of resolution, calls for a rational treatment, of which experience has often demonstrated the efficiency." I repeat that the nature of these tumors remains to be decided by future investigations, while of the reality of their existence, no doubt can reasonably be entertained. I have had no opportunity of examining one, *post mortem.* I once removed a uterus on the outer surface of which, anteriorly, was an isolated tumor, as large as a black walnut, distinctly fibrous; another, on which were two small flattened bodies, looking like cartilage and internally fibrous.

Having been, since my attention was first directed to this subject, seven years ago, constantly in the habit of examining for these tumors, in cases of uterine affections submitted to my care, I have met with so many instances, as to have been led to consider it as one of the most frequent of female diseases; and as constituting the essence of many of the so-called cases of prolapsus uteri, menorrhagia, hysteralgia, leucorrhœa, and perhaps dysmenorrhœa, which are still, although most improperly, considered as distinct diseases, *but which are oftenest only effects of some organic change.* On this subject, see Clark (Obs. on Dis. of Fem., &c., 1814), p. 2, and elsewhere: we find him saying, that "vaginal discharge is to be considered as a *symptom*, and not treated as a disease:" "either produced by *weakness of the constitution*, or by changes, the effect of natural or morbid causes, in the structure, position, or actions of the neighboring parts" (p. 31). "Examination, *per vaginam*," he says, "should always be proposed and performed whenever there is reason to believe, from the symptoms, that they depend upon any local cause." After citing the necessity for examination in cases of sore throat, presumed fistula in ano, disease of the prostate gland, he continues: "if all this be so, it is equally right for the practitioner to examine a female patient, whenever he believes (suspects) that disease is present" (p. 46). "A tumor," he says, "attached to the posterior part of the uterus, may so compress the rectum as to lead practitioners often to suspect stricture" (p. 55); and in a note, he mentions a patient, suspected of having stone, in whom a tumor projecting from the anterior part of the cervix was the cause of her symptoms. If we inquire what are the common symptoms of prolapsus uteri, we shall find Churchill, who makes no allusion to the complication, saying, "they are principally mechanical," and enumerating them as follows: "a sensation of fullness in the pelvis, weight, bearing down and dragging, strangury, *leucorrhœa*, *menorrhagia*, and dyspepsia." Now, as will presently be seen, the very same symptoms concur with the isolated tumor of the uterus, and it is, *à priori*, impossible to assert whether a case which presents them, is one of the one disease or the other. It is almost inconceivable that a tumor of any size, developed in the wall of the uterus, should not be attended with some displacement (prolapsus, anteversion, retroversion) of the organ; that it should not impair its function, excite in it a state of congestion leading to leuchorrœa and menorrhagia,* or even by altering the course of, and compressing the natural outlet, lead to a difficulty in the exit of its natural discharge (dysmenorrhœa, mechanical). If, in cases of apparently simple prolapsus, instead of contenting himself with ascertaining that the uterus is depressed in the vagina, the examiner will pass his finger behind or before, and above the neck, to the junction of this part with the upper extremity of the vagina, he will then often detect a distinctly circumscribed enlargement, projecting more or less, according to its size (if in the posterior wall reaching nearly sometimes to the sacrum, and easiest to be felt *per anum*). I would suggest that in examining by this latter passage, he be careful not to mistake the cervix uteri for the tumor (an error which I know by experience to be easy of commission), but get fairly above it, upon the body of the tumor itself. It is needless to dilate upon the necessity of a correct diagnosis in these cases; for, if upon the presence of the tumor depend the symptoms and the displacement, as I believe they often do, it is, obviously, only upon its removal that our chance of curing the patient must depend. Hence, the necessity of invariable and careful examination in all suspicious cases. A sufficient observation has fully convinced me that there are few, in which one or other, or both of our means of exploration, can properly be dispensed with. In a clinical lecture published by Dr. Addison, we have some valuable remarks upon the subject of uterine irritation, of which he says the most frequent symptoms are irregular menstruation, tenderness of the womb on pressure, and *leucorrhœa*. Among the morbid sensations which are induced by the exalted state of the nervous system engendered by this affection, he enlarges particularly upon that abdominal neuralgia so frequently mistaken for inflammation of the peritoneum. "It must, nevertheless," he says, "be carefully remembered, *that all*, or most of the symptoms I have enumerated as emanating more immediately from the uterus itself, *may and often do result from organic changes either in the uterus*, or in the parts adjacent. When, therefore, we have the least suspicion of the existence of such causes, an examination of the patient ought, *on no account whatever*, to be neglected." Now, it is very remarkable that, entertaining such correct sentiments, Dr. A. should not once have performed any such examination in one of the cases he has recorded; but lays great stress upon the necessity of attempting the cure of the leucorrhœa which is so constant a symptom, by means of astringent washes. It is possible that a more careful investigation might have detected in the uterus the particular organic change which I have been attempting to describe, as the cause of some of the cases of abdominal and other neuralgia which he has related. But none of them were examined.—(*A. on Dis. of Females, connected with Uterine Irritation.* Lond. 1830.) A brief report of some of the cases which have occurred to myself, will make the reader acquainted with the nature and symptoms of the disease, of the reality and interest of which, his own observations will not fail soon to convince him.

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* Ingleby states that he "lately saw a patient in consultation, who had a severe

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form of uterine hemorrhage, said to depend on placenta prævia: milk was freely secreted, but on examination, the symptoms were found to originate in a fibrous tumor, the size of a hen's egg, connected with the upper part of the cervix uteri. He also adds, what is so evident from a perusal of some of my cases, "that uterine *neuralgia* may frequently be traced to the influence of a fibrous tumor over a naturally irritable temperament. In one instance, the vaginal examination was not only attended by severe pain, but followed by delirium, which continued more or less for several days."—(Lect., p. 213, Am. Ed.)

Case I.—Mrs. Easter, widow, aged 43, mother of six children. Began to have pain in the womb within the last two years. Her principal complaint of pain is in the abdomen, low down in the groin, crossing the belly and settling in the hypogastric region, attended with bearing down and pressing, and a feeling that if something would come away she would be better. The pain is not constant. Sometimes it comes on in short and sudden paroxysms of great severity; sometimes lasts for hours, and sometimes for two or three days. Lying down relieves it; it is increased by lifting or straining, particularly at stool. Sometimes she is afraid to walk, owing to the bearing down in the lower part of the belly. Sitting down at all times causes pain in the left side. She has sundry dyspeptic symptoms. On examination, *per vag.*, a tumor as big as a hen's egg is felt to rise from or in the posterior wall of the cervix uteri, about half an inch above the lip of the os, having around it a distinct sulcus, by which it is circumscribed. It extends towards the left side of the patient; is elastic, rounded, and has a roughened feel on its surface, as if formed of flattened convolutions, divided by shallow sulci, but is not distinctly nodular. It is exquisitely tender, and the examination left a pain (which she describes as beating, hot, burning, dull, or numb) evidently neuralgic, to which much of the distress is doubtless owing, which lasted some time.* In all other respects the uterus appears healthy; it is rather low, and the neck is tilted forwards towards the pubis. Such was the history of the case some months ago. The symptoms still continue, but I have made no recent examination, nor has any treatment been submitted to.

Case II.—Mrs. Derest, aged 24. Seen July 28, 1837. Enjoyed good health previous to her marriage, four years ago, and never since. Had two miscarriages: no living children. Has been suffering much for some months. Pulse one hundred and tense: bowels costive, urine stringy and passed with pain. The inguinal and hypogastric regions are very painful on pressure, but no tumor can be felt from without. There is a good deal of pain in the back, a sensation of bearing down, and of something obstructing the rectum and the evacuation of fœces, and occasional paroxysms of dreadful pain, lasting for hours. On examination, the uterus was found prolapsed, its os and cervix quite healthy. On passing the finger behind the cervix, and upwards towards the left side (that which is the most painful), a hard, knobbed enlargement is to be perceived; and, *per anum*, a large tumor can be felt, occupying the hollow of the sacrum, and pressing towards each other the walls of the rectum. The body of the uterus seems enlarged. The examination was followed by severe pain, which lasted several hours. The woman was a patient of Dr. Jas. B. Kissam's. Of the subsequent events of the case, I know nothing, except that she took Iodine, and I heard lately that she was still living, and in better health. Since the above was written, I found the following memoranda relating to the patient among my papers. Nov. 26, 1840.—After taking 3 oz. Sol. Iod., considered herself well for a period of two and a half years. The symptoms (the same as before) are again as bad as ever. The extreme tenderness of the posterior lip of the uterus renders the examination of the tumor difficult, but it is certainly smaller than formerly. The anterior lower portion of the body of the uterus is enlarged, irregular, in parts harder than in others, and exquisitely tender to the touch ; towards its left side it is pretty distinctly circumscribed as a tumor, but accuracy of examination is forbidden by the pain which is caused by the touch. Jan. 1, 1841.—Much relief from the use of Iod. Hydrarg. August, 1844.—No examination since. Health perfectly good.

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* The connection between hysteralgia and fibrous tumors of the uterus, has been ably pointed out by Ingleby (Lect., p. 204). He has known of four cases thus caused. In a case of small hard tumor of the upper part of the cervix, extreme tenderness of the vagina was a marked symptom.

Case III.—H. Green, light mulatto, aged 28 years; seen 9th July, 1837. Married 12 years : two children by her first husband, none by her second—none for several years past. Is stout and active, menstruates regularly but scantily, urinates freely as to quantity, but has occasionally extreme pain at the end of the urethra, after the evacuation, causing her to shed tears even. Has also pain in the loins. The belly is not tender, and no tumor can be felt in it. The cervix uteri is hard and stiff, and is, as it were, tilted up towards the opposite side from the tumor. The outer surfaces of the lips of the os are rough, hard, and irregular ; and the os itself has the shape of an *S*. (The speculum was not used.) The finger, *in ano*, encounters a large tumor springing from the posterior surface of the uterus, just above the cervix, which is hard and irregular, but does not block up the rectum as much as in the preceding case. There are some circumstances connected with this case which are highly interesting, in the history of the disease. The tumor *disappeared* very rapidly under the use of iodine, not a vestige of it being left, and for some years I considered the cure as complete. About a year ago I obtained permission to examine the uterus, and was much pained to find that a tumor of some size occupied the site of the former one ; in other words, *that it was growing again.* As no complaint was made at the time, I said nothing about it ; but on the 12th of March last, was again consulted, for a return of the old symptoms. A very considerable tumor now occupies the posterior surface of the uterus, reaching towards the sacrum, having a flattened feel, its lower edge rather sharp, tolerably smooth, and rather painful. The function of the uterus is not impaired. Further to increase the probability that these tumors belong to the fibrous variety, a very distinct one is to be felt in the right groin, tender, nearly as large as an egg, and apparently attached to the organ. This latter tumor is much less painful to the touch since leeches were applied over it. *The disappearance and subsequent return of the disease* are further exemplified in case 4th.

Case IV.—Mary Stevens, colored, aged about 30, married 12 years, and mother of two children, consulted me for pain in utero, prolapsus, and scantiness of the catamenia, Sept., 1837. The lower portion of the posterior wall of the uterus was then swollen and tender. In October, there existed a tumor of considerable size, which, on the 28th November, was recognized by my friend, Dr. G. W. Hodgson, now of White Plains. *Per rectum*, it could be felt to consist of two rounded portions, as large as walnuts, divided by a central sulcus, and very tender. Under the use of iodine, they became smaller, softer, and more circumscribed, and could be pushed up with the uterus into the abdomen. She complained of pain, weight, and leucorrhœa. On the 1st of May, 1838, the tumor was as large as a walnut, softer, and smooth. During the next six months, it rapidly increased in size, being nearly as large as a small orange. On the 28th March, 1839, she called, stating herself to be some months advanced in pregnancy, and, to my surprise, *I could not discover the tumor.** She was delivered easily, in due time, of a living child. Some months afterwards, on examining her again, I felt the tumor, elastic, as large as a walnut, of circular shape, very tender on pressure, and occupying its original site. There was a great degree of prolapsus; about this time she was examined by Doctor (now Professor) Gilman. The tumor increased, and is now of considerable size, and causing a good deal of uneasiness, but of late has not appeared to enlarge. A year ago, when a patient of the Northern Dispensary, for dysmenorrhœa, which appeared to subside under the use of the bougie, she was several times examined by my able and zealous colleague, Dr. James Crane, Jun.

The symptoms which *may* arise from the disease now under consideration, are further illustrated by the following:

Case V.—Mrs. Sands, mulatto, aged 20, small and delicate; had been married six weeks. On 19th December, 1839, was exposed to cold: on the 20th, menstruated, as she had always done, with pain, which continued severe until the evening of the 23d, when it abated under the use of anodynes. On the 25th the pain recurred, and she vomited up everything she took. On the next day, general peritonitis existed in a well-marked form, and yielded to the usual treatment. The digestive organs continued to be disordered for some time afterwards, and occasional attacks of pain and tenesmus occurred. On the 13th January she began to complain of a return of the old pain, recurring at frequent intervals, at times distressingly severe. On these occasions she walked about her room, bent double, and almost delirious with agony. I now made a vaginal examination. The uterus was very much prolapsed, the neck tilted forwards, thick and firm, and the os gaping. A large round tumor, springing from the posterior wall just above the cervix, as large as a small orange, of uniform smoothness, hard, and very painful on pressure, occupies the vagina and encroaches considerably upon the rectum. The examination caused pain. The pubic region was tender. She had no particular difficulty in urinating, or in defecation, but had long been annoyed by an inclination to expel something from the rectum; otherwise, previous to her marriage, she had had good health. Every evening, from the date of the examination, until the 28th, she was attacked, about 5, p. m., with excruciating pain in the abdomen, beginning in the groins, during which she tossed about in bed in all directions, imploring the administration of her anodyne (McMunn's El. Op.), which invariably speedily relieved. The tumor soon disappeared under the use of iodyne, but what has been her condition since I have had no opportunity of determining.

Case VI.—Mrs. Rankins, *æt.* 30, married 5 years: mother of two children, visited Mar. 4, 1840. Her husband had been absent for thirteen months; immediately on his return, she was attacked with excessive pain in the uterus (having previously enjoyed good health), followed by symptoms of peritoneal inflammation, requiring depletion and anodynes. On the subsidence of the more serious symptoms, she lay in a languid, suffering and highly nervous state until the 1st July, when on a vaginal examination the uterus was found prolapsed, and a tumor was detected, circumscribed and as large as a lady apple, on the posterior wall of the uterus, and toward its right side. It had the usual elastic feel, and was very painful on pressure, appeared as if lobulated externally, and was very distinct per rectum.

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* A case of spontaneous disappearance of two large fibrous tumors is to be found in the first volume of "Clark on the Diseases of Females," 1814, 1st ed., p. 250.

Case VII.—Mrs. Johnson, aged 36, mother of one child, applied to me about one year ago, for certain uneasy sensations about the back, hypogastrium, &c., which led to the discovery of an enlargement in the posterior part of the uterus, of some size, but the particulars of which I cannot recall to my memory. Subsequently she disclosed a large fluctuating tumor upon the right loin, which, on being opened, contained a thin purulent fluid derived from carious bone beneath. The fistula still discharges, and I regret to add that a similar tumor, as large as my two fists, now exists in the left groin and is rapidly enlarging. Notwithstanding, her general health is good. The tumor of the uterus, examined this day, Aug. 3, has lost much of its original circumscribed character, and feels more like a general enlargement of the posterior surface of the organ, increasing in thickness as it ascends, hard, not very irregular, and excessively tender, so as to render the examination difficult. It arises from about half an inch above the os, the portion of neck which is sound not being tender; the uterus is low, its anterior surface healthy. It does not interfere with defecation; menstruation is easy and regular, but scanty; leucorrhœa habitual, and coitus so painful as to be allowed only with the greatest reluctance. The examination, as well as it, lead to aching pain afterward, from hip to hip and through the body. There is pain in the back and belly, and the least jar in walking causes her to scream out. Some of this may be due, however, to the caries which exists in the pelvic bones. She has taken a good deal of iodine at irregular intervals, to which, perhaps, the change in the tumor may be owing. Several more cases have come under my observation in private practice; two or three such were seen by myself and Dr. Crane in the Northern Dispensary, and the latter also saw a case in private practice. Prof. Gilman has also met with and treated such an one, successfully. As I am not writing a history, but a sketch only of the affection, I shall leave the symptoms to be inferred from the cases which I have now related, remarking only that they present nothing pathognomonic, but are the common expression of several uterine affections. That each may exist separately and from other causes, I well know, but I leave it to the profession to decide, how far, when they coincide, they are to be considered as in the relation of cause and effect, and how far the removal of the tumor demands our especial attention. The neuralgic character of the pain with which they are apt to be associated, merits a passing notice, not less than their frequency, the uncertainty of their nature, their tendency to remain stationary, to grow slowly, or rapidly, to disappear and spontaneously to return, *their peculiar predilection for the posterior wall of the uterus*, their innocuousness to life, and their insidious development, until revealed under the influences of some stimulus, of which matrimony and the renewal of coitus are conspicuous. Of the causes of the disease I know nothing; for the prognosis, I refer to the quotation from Lisfranc, and leave the diagnosis to the tact and judgment of the reader. A very few words respecting the treatment.

The only remedy for these tumors on which any reliance can, in the present state of our knowledge, be placed, is iodine. The authority upon the subject, is Dr. Ashwell. In his paper on the use of this medicine, in cases of "hard tumors of the uterus," he observes, that "in the walls of the uterus, which are not glandular, iodine has generally only accomplished a certain amount of good; it has restrained the activity of the disease, confining its bulk within the limits it had obtained prior to its being exhibited. I have watched some of these cases of large, hard tumors of the uterus, for two years since the remedy has been discontinued, and as yet there has been no augmentation of the growth, no renewed activity of the morbid process." In the first of his cases, a tumor as large as the adult head, became, between the months of Jan. and April, diminished in size to that of a large orange; it was softer, and its lobulated feel more distinct and positive. In his fifth case, the tumors of the cervix had disappeared in eight months, and no further enlargement of the larger ones had occurred at the end of two years. In his seventh case, a similar result was obtained at the expiration of three and a half years. In one of Baron's cases, total disappearance, and in the other, great reduction of large uterine tumors resulted, and a Dr. Thetford* has related a similarly successful example. These, with some cases seen by myself, corroborate Dr. Ashwell's inference, that "total disappearance of tumors developed in the walls of the uterus, is not (always) to be expected," but that "restraint of the lesion within its present limits and the improvement of the general health, may be anticipated, and will be the extent of the benefit derived." To the same effect we have the testimony of Dr. Ingleby. "The larger and firmer class of tumors, fibro-cartilaginous, nodulated and multiform, are not susceptible of discussion, and it is vain to make the attempt; but I am quite certain that fibrous tumors, which could be distinguished so plainly as to leave no possible doubt of their existence, have entirely disappeared under remedies which act in a peculiar manner upon the absorbent system." In the paper of Lisfranc which I have cited, mention is made of a hard, knobbed, round, circumscribed tumor in the *anterior* wall of the uterus, which was cured by the use of hemlock pills, and Iod. Potass. internally, and frictions externally every night to the groins, of an ointment consisting of pure axunge 30 grammes, 4 grammes of the Iod. Plumb., and 3 decigrammes of Ext. gummos. opii. In another case, one as large as a pigeon's egg, round, hard, and completely immovable, unequal on the surface, *in the anterior wall,* was cured by similar means in one year. Several, in a third case, felt *per vaginam*, were cured by the Iod. Potass. in five months; another as large as a chestnut, occupying the *posterior* part of the body, was cured by it in six months. Even if in doubt as to its nature, we are advised by this author, to treat the tumor as if it were an engorgement; for, says he, even if it be a fibrous body, the same treatment would be indicated, and would have, besides, the chance of *retarding the development of the abnormal fibrous body and keeping it stationary*, by diminishing the excess of vitality and nutritive movement which presides over its evolution, and favors its increase. Of this apparent effect, he relates a case, saying, "is it not evident, in fact, that to this treatment we are indebted for having kept the fibrous body stationary during thirteen years, and which might have remained so much longer, the anatomical condition of the womb being found at the autopsy, in the best possible condition?"

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* "Patient *æt.* 40. Had an attack of constipation, which had nearly proved fatal. Micturition by drops with extreme pain; tenderness and pain in pubic regions, with sensitiveness of bones. Vagina occupied by a hard tumor; os uteri enlarged, and a large osseous (Qu. ?) tumor felt beyond it."

"The most marked curative effect," continues Ashwell, "however, of the iodine, is on structural changes of the os and cervix, which seldom continue long without undergoing alterations of condition. Here, then, it is that iodine is particularly valuable, *hard tumors of the cervix and posterior wall*, and indurated puckering of the os, *may be melted down and cured by iodine.*" In every case which he has given, the morbid conditions of the os and cervix were removed. In his second case, between the 2d June and beginning of August, all appearance of the tumor was gone. In his third case, in little more than one month, no vestige of it remained. In his first case, an examination was instituted at the end of six weeks; the tumor on the posterior wall of the uterus had disappeared. "I am convinced," he says, "that the positions I have attempted to establish, are essentially true; they will be increasingly confirmed by the reiterated employment of the remedy." "I have myself," says Ingleby, in corroboration of this remark, "had reason to attribute the diminution, and even the disappearance of small fibrous tumors, for the most part to the effects of iodine; and in persons of unimpaired health, it ought to be tried." But he thinks that its protracted employment may do harm in feeble habits, and in them, he advises only its external application. I have tried it much, but have seen no bad effects to result from its use. The prophecy which I have cited from Ashwell has been confirmed by my own experience. Not only have I under my observation, patients in whom tumors of the uterus of considerable size have diminished, or have undergone no increase in several years, but in three of the cases I have given, the tumor of the posterior wall has disappeared under its use, and my friend, Dr. Gilman, has been equally fortunate.* H. Green, case third, commenced the use of iodine on the 10th Aug., and by the 1st Oct., the tumor was gone. The fact of its subsequent return I have already stated. Mrs. Sands commenced using it (Lugol's solution), in doses of ten drops daily, on the 28th Jan. and increased the dose to sixteen drops three times a day. On the 28th Feb., no vestige of the tumor remained. The prolapsus continued and a small, hard, flattened surface, from which the tumor had projected, could be felt on the posterior surface of the uterus. She continued well on the 23d Oct., 1840, since which I have not seen her. In the case of Mrs. Rankins, who was visited on the 4th March, although the treatment with iodine commenced at a much later period, no vestige of the tumor remained on the 17th Dec. following; her health was then excellent, and so I believe it has since continued. A certain amount of benefit also followed its use in other of the cases which have occurred to me. No remedy hitherto used has furnished anything like the proportion of success which has followed the use of iodine in the treatment of uterine tumors; and if, as certainly happens, it fail occasionally, it does but share this want of success, as Dr. Ashwell remarks, with all our most valuable remedies.

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* Professor Gilman has, at my request, kindly furnished me with the following statement. "Oct. 21, 1843, saw Mrs. F., aged 27, married five years, without children. Her menstrual function has always been irregular. She is now suffering from extreme pain in the uterine region, occurring in paroxysms, aggravated by motion, or the upright posture. When the pain is most severe, the stomach sympathizes and there is considerable nausea. On examination *per vag.*, I discovered a tumor about the size of a nutmeg, occupying the posterior wall of the cervix and extending somewhat up upon the body of the uterus, a form of disease with which previous cases had made me quite familiar; it was firm though not of stony hardness, not tender on pressure, round and uniform in shape. After removing the excessive irritation of the uterine organs by the external and internal use of narcotics, I ordered Lugol's solution, at first in doses of ten drops, three times a day; in two weeks time it was increased to fifteen, which she continued for six weeks longer.

There was no return of the violent irritation, and by vaginal examination I found that the tumor was diminishing. At the end of ten weeks it had entirely disappeared. The general health was much improved, and menstruation was performed with less irritation than for many years previously."

29 *Green Street*, *August* 8, 1844.

Dr. Ashwell does not allow the use of iodine, in his hands, empirically to supersede the use of occasional cupping on the loins, a mild, unstimulating, or milk diet, gentle aperients, narcotic injections into the vagina, and the warm hip bath three times a week. To none of these plans, except the regulation of the bowels and diet, have I resorted. Protracted recumbency (especially, as advised by Gooch, in the hysteralgic cases) may be useful. I have not found it indispensable. Ingleby indeed observes that, " exercise, when the tumors are not in a state of inflammation and when not productive of pain, ought not to be neglected." The fact that one of my patients began to suffer from her previously indolent disease, within six weeks after marriage, and another on the return of her husband after thirteen months' absence, proves incontestibly 'the importance of entire abstinence,' insisted on by Ashwell, from sexual intercourse, during the treatment of these structural lesions. Another method employed by Dr. Ashwell, conjointly with its internal exhibition, is the application of iodine in the form of Lugol's ointment (℞ Iodine gr. xv. Pot. Hydriod. ℈ij. Ung. Cet. ℥iss) to the tumor itself, a portion the size of a small nutmeg being introduced by the finger, or a sponge, upon a slender piece of cane, or a camel's hair pencil into the vagina, and rubbed upon the affected cervix every night, for ten minutes. From the only trial I have ever made of this method, I should say that it was almost impracticable to get the ointment up so far as the tumor, before it was dissolved by the heat of the vagina. Frictions of iodine ointment, or ointments containing some of its salts, upon the abdomen, or into the thighs or groins, may be employed with some additional prospect of advantage. I have occasionally seen the iodine produce vertigo and headache; generally it was well borne and no unpleasant effects have attended its use. The preparation employed by Dr. Ashwell is the julepum, and in one case the tincture, in doses of 1 oz. of the former and 5 drops of the latter in sweetened water, three times a day. I have used nothing but Lugol's solution, of which, I think, it will seldom be necessary to exceed 15 drops, three times a day. The shortest time in which any patient has hitherto been cured is one month; the longest, a little more than one year. Dr. Ashwell states the average time as from eight to sixteen weeks. We should, then, steadily persevere in our efforts, so long as the inconveniences attending the disease continue, while it appears lessening in size, or until it is evidently no longer influenced by the medicine. In the cases in which it is to act favorably, its beneficial influence appears to be speedily exerted. I conclude these remarks on treatment with the observation of Ingleby, " that it is scarcely needful to add, that co-existing discharges must be moderated, inflammation of the tumor or uterus abated, pain assuaged, and purulent collections, when accessible, evacuated by suitable means."

I venture to believe that the disease to which I have now endeavored to attract the attention of the reader, and which has not hitherto received the attention which it merits, will be found to be as I describe it; of very frequent occurrence, and constituting the essential cause of many of the symptoms of which women so frequently complain. It is, too, in a considerable number of cases, amenable to treatment; its nature is as yet undecided; these are considerations which invest the study of it with great interest. I am so convinced of the truth of what I have here stated, that I have the confidence to hope that the light which will hereafter be shed on this subject, by the researches of those to whom these remarks may attain, will contribute materially to the alleviation of the sufferings of that sex, in whose welfare every right-minded man and every benevolent physician, must take a warm interest; and that a new ray will be thrown upon the true pathology of some of their ailments. "If," says Dr. Addison, in the lecture I have quoted, "gentlemen, you really require an apology for detaining you so long, I find ample material for that apology in the lively interest we must all feel in the comfort and happiness of the other sex, doomed as they are, both by the decrees of Providence, and by human institutions, to drink deep of the bitter cup of suffering. Whatever may be *her* lot in this world, we, as men, must at least acknowledge that whilst Infinite Power gave us being, Infinite Mercy gave us Woman."

References.—For the convenience of the reader who may desire to consult the original works which I have cited, I append their titles. Ashwell; Guy's Hosp. Rep., vol. i., 1836, p. 136; Thetford; Trans. of Dub. Coll. of Phys. and Surg., vol. v.; Lisfranc; Dis. of Uterus., Amer. Transl., p. 376; do. in Bullet. Gen. de Therap., March, 1843; Ingleby's Clin. Lect. on Fibrous Tumor of the Uterus, Phil., 1841; Baron. Med. Chir. Rev., July, 1839; Waller's Lect., Phil., 1841, p. 74; a tumor as large as a pullet's egg on the posterior surface of the womb, which remained stationary; Dupuytren; Clin. des Hop., April 10, 1828.

New York, Aug. 4, 1844.

ART. V.—*Closure of the Urethra from Injury of the Perineum. The Urine discharged through an artificial Opening above the Pubes; the natural Passage restored by an Operation.* By GURDON BUCK, M.D., Surgeon to the New York Hospital.

SILAS BLUNT, cabin-boy, of small size and sallow complexion, aged 14 years, born in North Carolina, was admitted into the New York Hospital, October 12, 1843, with closure of the urethra and a fistulous opening above the pubes, through which he discharged his urine.

In the month of June preceding he had fallen, with his legs astraddle, upon the edge of an empty flour-barrel. No external wound was produced, but swelling and ecchymosis of the perineum followed, with slight hemorrhage from the urethra and complete retention of urine. Thirty-six hours after the accident the bladder was punctured above the pubes, and a quart of urine stained with blood was drawn off. The opening, which is still maintained, is situated in the median line, more than an inch above the pubes. Since the injury no urine has flowed from the natural passage, and the attempts to restore it have been ineffectual. With the exception of a knotted induration around the membranous portion of the urethra, the perineum is supple and sound. The orifice of the fistulous opening pouts out and is disposed to scab over; the tissues through which it passes are thickened and hard, and the surrounding surface red. The catheter used by the patient is one of his own fabric, made from the small end of a common reed, shaved down to the size of a goose-quill, and is six inches in length. He is obliged to resort to it at least once in three hours, and sometimes as often as once an hour in the day time, and once or twice in the course of the night. When introduced, the instrument inclines a little upward towards the umbilicus. The bladder was ascertained, by examination per rectum, to be habitually distended with the residuary urine that could not be discharged through the elevated artificial opening. A catheter, introduced into the urethra, passed over a callous fold of the lining membrane before it reached the closed portion.

When admitted, the patient was suffering from a relapse of tertian intermittent, which was cured by the sulphate of quinine. One month elapsed before an operation was resorted to, during which cautious efforts were made to penetrate the closed passage.

A small-sized conical gum-elastic bougie was first used, but it could not be engaged in the contracted canal. A straight steel sound was next tried, with moderate force cautiously employed, but without effect. At length, on the 13th of November, the following operation was performed. The patient being secured as in the operation of lithotomy, and a full sized catheter passed down to the closed portion of the urethra, and held steadily in that position, an incision was made in the perineum, along the raphe, of nearly two inches in length, opening into the urethra so as to expose the end of the instrument. A steel sound was then introduced above the pubes into the bladder by the artificial opening, and, with the aid of the finger in the rectum, the end of it was brought forwards, and made to press against the closed portion from behind. The catheter was then withdrawn, and, with a narrow pointed scalpel, the closed portion was divided from before backwards, the end of the steel sound serving as a guide to direct the track of the incision. A full-sized catheter was at length passed into the bladder, and a large quantity of residuary urine drawn off, though he had made water just before the operation.

A compress was placed over the perineum, and secured by a T bandage, to which the catheter was attached by threads passing through the rings.

November 14.—Patient passed a comfortable night; the urine is discharged through the catheter; has had chills this morning, followed by considerable fever; the left half of the scrotum is red and œdematous; pulse 112, respiration hurried, tongue clean. ℞. Spirit. Mindereri, ℥ss. every two hours.

Nov. 15.—Swelling and œdematous thickening of the scrotum increased. Punctured the scrotum in various places with a lancet; continue lotion of acetate of lead, gr. viii., tinc. of opium, ʒi., Water, ℥ viij.

Nov. 16.—Removed the catheter, and, after cleaning it, replaced it without difficulty; general symptoms favorable; pulse 96; scrotum the same; eight leeches to be applied to it.

Nov. 18.—A small quantity of urine escaped from the wound at stool, but none from above the pubes; catheter again removed; calcareous incrustation was found around the eyes, on the upper surface; replaced with facility; scrotum somewhat improved; poultice is applied.

Nov. 20.—The swelling and tension of the scrotum have increased, especially at the lower part; urine has escaped from above the pubes as well as from the wound in the perineum. To prevent sloughing, a free incision, two inches in length, was made on either side of the raphe into the cellular tissue of the scrotum, which presented a buff jelly-like appearance, from infiltrated lymph.

Nov. 22.—The swelling and tension of the scrotum are diminishing; the penis and prepuce are swollen and œdematous, apparently from irritation caused by the pressure of the instrument, which had been secured too tightly in the bladder; and, as it became obstructed, it had allowed the urine to accumulate and escape above the pubes and from the perineum. Patient has been chilly, and an erysipelatous blush has appeared upon the nates. ℞. Opiated Saturnine lotion.

Nov. 30.—All swelling and induration of the scrotum and penis have subsided, and the parts have resumed their natural condition without sloughing. The urine has passed exclusively by the catheter the last four or five days. The wound in the perineum is contracting.

December 15.—The opening above the pubes has closed; the wound in the perineum is gradually filling up and contracting. Patient wears the catheter constantly, and he is allowed to walk about.

Dec. 30.—The wound in the perineum having nearly healed up, the catheter was left out for twenty-four hours, during which time the patient passed his urine easily, and could retain it the full time, though, in the intervals, some would escape in drops. Passed the night also without being obliged to get up, but found the urine had escaped by drops, as during the day. On attempting to introduce the catheter, the urethra was found to have contracted, so that an instrument two sizes smaller had to be resorted to; and it was directed to be worn constantly awhile longer as before.

January 12.—For some time patient has worn a full-sized catheter at night only, and he is now able to retain his urine the full time without dribbling. The wound in the perineum is healed. On taking his discharge, he was directed to continue the use of the catheter at night, in the same manner, for three or four weeks; after which, to wear it an hour only at bed-time as much longer, then to introduce it simply once in twenty-four hours, and afterwards two or three times a week.

Remarks.—In the above case, as has been my practice in similar cases, the catheter was not disturbed till the third day after the operation, at which time, inflammation had agglutinated the layers of the divided tissues, and shut off the openings in which the end of the instrument might become engaged in replacing it.

The parts have also moulded themselves and acquired a degree of firmness, so that, in returning the catheter, it passes easily through them into the bladder. After the first removal, the catheter may be changed every day or two, as the case requires. Special care should be taken to attach it loosely to the T bandage, so that there may be no pressure inwardly where the instrument begins to curve. My experience, thus far, leads me to prefer decidedly a silver catheter to a flexible one, as giving more steadiness and support to the parts.

Art. VI.—*The Spontaneous Cure of Phthisis, and the successful Application of Electro-Galvanism in Amenorrhœa.* By Clarkson T. Collins, M. D., of New York.

Case I.—It is my belief that there are many more cases of phthisis pulmonalis cured by nature alone than medical men are generally aware of. I do not mean to say that we should always trust to nature alone, by any means, but that we should be very cautious lest we do too much. The case that I am about to relate came under my care the 29th day of March last. Sarah Hamor, æt. 55, born in England, had always been rather delicate. She was attacked last fall with erysipelas of the left hand and arm; and after recovering from that, she caught a severe cold, which was followed by a troublesome cough, and shooting pains through the chest, but more especially on the right side, from the right mamma to the shoulder blade of the same side. She now began to lose flesh; and when I first saw her (which was as above stated) she was so much emaciated, to use a common phrase, that she was a mere skeleton. She was so weak, at that time, that she was unable to help herself; she had profuse night sweats, severe cough, and expectorated about half a pint or more of light greyish yellow pus of a frothy nature (same as usually seen in the last stages of consumption) in the course of twenty-four hours. Her shoulders were raised and brought forward; the chest flat, and the clavicles very prominent, leaving a hollow. On auscultation there was that peculiar hollow gurgling sound, at times, heard over the right lung; and, at others, there was no sound to be heard of respiration at some points. The dyspnœa sometimes became so urgent that the friends several times thought her dying. Almost as soon as she fell asleep, she would break out in a profuse perspiration, and the little sleep she did get was not refreshing. There was an abscess on the right side of the spine, extending from about the second rib to the ninth or tenth, and about four inches wide, involving all the muscles of the back contained within that space. There was an opening about an inch and a half from the spine, over the region between the fifth and sixth ribs, which I enlarged by means of a bistoury, and kept open by the use of poultices. The abscess discharged constantly, and at one time nearly a pint of well marked pus. When I was first called, I told the friends that I thought she could live but a very short time, which conclusion, I was informed, all parties concerned had come to before having her brought into town.

She had been brought over the river from Wallabout, L. I., the same day that I first saw her—it being her desire to be at her friend's house, in this city, when her spirit should take its flight. My great object in her case was to palliate her sufferings, and merely make her as comfortable as possible during the time she might live. I told her friends to let her eat as much as she wanted, and anything in the way of ordinary food; also to let her have a small quantity of wine. Ordered the following mixture to be given at night, and at any time during the day when the cough was most troublesome: R. Gum Acacia, Ext. Glycyrrhiz. ā ā ℥j., Syr. Althea. Tinct. Opii. ā ā ℥ss., Vin. Antimo. gtt. x. and Aqua pura ʒiii. Dose, cochlea magn. I visited my patient daily, expecting every visit to be the last, for about a fortnight, when I was convinced that she was no worse: her night sweats began to decrease, and she got more refreshing sleep; her appetite seemed very good, and in fact it was rather voracious, and her cough was easier. The discharge from her back began to diminish, and at the end of four weeks was quite healed up. Her cough had nearly left her at that time, and she began to gain flesh. In about four weeks from the time I first saw her, her cough had entirely left her, and she was gaining strength fast. The only thing that she now complained of was pain about the right side, and a "falling in," as she said, of the right side of the chest, which she had observed during the whole course of treatment. The right side became much smaller than the left, owing to the chest's shaping itself to the new condition of the lung. In about six weeks from the time I first saw her she left town for Poughkeepsie, in better health, she said, than she had enjoyed for years. I gave her nothing of any importance beside cough mixtures, similar to the one first ordered.

There is certainly something very singular in this case, and some may be led to believe that there were no tubercles in the lungs, the affirmative of which I have every reason to believe, for I never saw a plainer marked case. The left lung seemed, from the first, not to be diseased.

Case II.—U. W., æt. 35, unmarried, rather delicate constitution; her menses were stopped by taking cold, some seven months before I first saw her. I tried all the usual remedies prescribed in such cases, but I did not succeed in bringing about the desired effect. I had been using the Electro-Magnetic machine in some other cases with the happiest effects; and I therefore was induced to use it in this case, in which it succeeded most perfectly. I applied the buttons connected with the machine over the region of the womb, holding one on the lumbar region of the spine, and the other in front over the pubic region; using the negative and positive wires alternately to the spine and abdomen. I continued the remedy five days, from five to ten minutes each day, when her menses were fully re-established. I have used it in Rheumatism with good effect.

Art. VII.—*Cases of Sore Throat, terminating in Tubular Effusion in the Bronchial Tubes, with Croupy Cough.* By A. V. Williams, M.D., of New York.

Case I.—In the month of August last, I was called to see a child that had been subject to frequent attacks of croup, from which circumstance the mother was not only familiar with the most prominent symptoms of the disease, but also with the treatment required in its forming stage. She announced to me, however, on the present occasion, that there was something about this case different from the former attack, to which this child, as well as two others, had been subject, and particularly in its not yielding to the kind of treatment which she had pursued in former cases with success, viz., a brisk emetic, a calomel cathartic, leeches, &c.

The child had been ill two days when I was called to see it. I found him laboring under a cough which was husky and hoarse, and almost constant; the breathing laborious and wheezing as in asthma; the voice whispering and hoarse; skin cool; pulse rapid; intellect clear. The chest emitted a dull sound on percussion, and the mucous rale was perceptible to the ear, on applying it to the chest. The child had been freely vomited and purged, as stated above, without any relief; and it now presented all the appearances of a child laboring under the membranous stage of croup. From the peculiarity of its voice, I was induced to look into the throat (as indeed is my uniform custom when called to a case of croup), when I discovered the tonsils speckled over with apthous spots; and the posterior part of the throat covered over with a thick layer of the color of the buffy coat of inflamed blood; and this appearance extended down as far as the eye could see.

Calomel and ipecac. were given every two hours; and the throat was cleared from phlegm as it accumulated, by emetics, a variety of which was used, such as Cox's hive syrup, sulp. zinci, polygala senega, &c., whilst a blister was applied to the throat, and another to the chest. One bleeding from the arm was also made, but without any good effect; and various topical applications were made to the throat, but without any benefit, such as nit. argenti, and others. The child died two days after I first saw it, and four days after the croupy symptoms first made their appearance; although I afterwards learned that the child had been subject to a cough ever since it had been ill with the influenza, which had prevailed in the month of June. I very much regretted that a professional engagement prevented my making an autopsical examination of the body, so as to verify the true nature of the disease. An unfortunate case, however, a few weeks subsequently, afforded this opportunity, in the same family, in the next oldest child, aged 6 years; the subject in the former case being 3½ years old.

Case II.—Ann J., aged 6 years, the sister of the little boy, whose case is given above, was attacked with hoarseness and cough, accompanied by slight difficulty in swallowing. These symptoms progressed, and the parents becoming alarmed from the likeness of this to the former case, I was sent for; and I found the child with a quick pulse, and skin not heated, although the mother stated that there had been high fever during the night. The cough was not incessant as in the former case, but was hoarse and croupy; the throat, on examination, was found covered with yellow matter precisely as in the first case. This child complained of some pain in the chest. I applied leeches to the throat and drew blood by means of cups from between the shoulders; a blister was applied to the throat, and another to the chest. The most prominent symptom was the difficulty of breathing, which, indeed, was all that was complained of. The effect of the treatment demonstrated the impropriety of any further abstraction of blood. Calomel and James' powder were given every two hours; the throat was kept clear from phlegm by emetics, a variety being used in this case, as circumstances seemed to require, but without anything more than temporary relief; the usual symptoms of the membranous stage of the disease continuing with the eighth day, when the child died. Twenty-fours after death, I examined the body, and found the fauces slightly roughened. On the edge of the epiglottis, there was a small ulceration a quarter of an inch long, and two lines wide; the larynx and trachea were entirely free from mucus, and the lining membrane white and smooth until within about half an inch above the bifurcation of the bronchia, where a tubular membrane presented itself, lying lower within the cylinder of the bronchia; and it was so tough that it could be drawn out in pieces of an inch or more long. This membrane could be traced down to the extreme termination of the bronchial tubes into the lungs. The anterior part of the lungs was healthy, and the posterior part more solid and livid than could be accounted for by infiltration after death.

Case III.—Whilst this case was progressing, an older child in the family presented symptoms similar to those which existed in the earlier stages of these cases just given. The throat in this boy was more painful than in the other children, and as he was more able to give an account of his sensations, the earliest attention was paid to him. Such treatment as the case seemed to demand was applied to him, such as gurgling the throat with a strong solution of nitras argenti, leeches to the throat, cathartics, emetics, &c. The disease seeming to be progressing, I put him upon the use of calomel and Dover's powder every two hours, so as to bring his system under the specific action of mercury, hoping thereby to arrest the disease. My friend, Dr. A. H. Stevens, whom, at this time, I had called in consultation, recommended a continuation of the remedies as the most likely to be attended with success. The calomel acted upon the bowels, producing bloody stools; and when the difficulty of the breathing was rapidly increasing, in a violent fit of coughing the boy threw up a large mouthful of phlegm, with entire relief to all his urgent symptoms. He convalesced gradually, and recovered so far as to attend school, when, five weeks after, he *contracted scarlet fever*, which he had very severely, in all its symptoms.

These cases are related as cumulative evidence of the existence of a disease terminating like the membranous stages of croup, but differing from that disease in its beginning as well as from the cynanche maligna, which it is well known often ends in a similar manner. When the "croupy cough" is considered, that prominent symptom, common to all, we can easily understand how diseases, whose pathological termination is alike, should be confounded, although their essential natures are very different.

If our impressions shall be confirmed by the observation of others, this subject is of importance in more ways than as a mere discrimination of shades of disease. Genuine croup, as has been demonstrated by Bayley, Cheyne, Hosack, and others, is an inflammatory disease, requiring antiphlogistic treatment in its first stage. The secondary croup, caused by cynanche maligna, would demand an opposite course; whilst in this, calomel would seem to be the remedy, offering the greatest hope. Bretonneau and other French writers contend that croup and cynanche maligna are identical, differing only in the seat which they occupy. "Il a prouvé ensuite, que ces deux maladies, identiques quant aux alterations pathologiques, ne different que par rapport au siège qu'elles occupent."* No mistake could be more fatal in practice. The invasion of genuine croup is sudden; the child is attacked (after exposure) when in high health; the constitutional symptoms do not appear until croupy cough has been some time present and even urgent. The secondary croup of scarlatina maligna, and in the cases of which we write, the croupy symptoms, do not appear until the patient has been some time indisposed. In genuine croup prompt antiphlogistic treatment in the first stage will relieve ninety-nine out of the hundred. Indeed, we have never met with a fatal case, when called to it in the first stage. In the secondary croup of cynanche maligna, nineteen died out of twenty. Of the cases we have given two died out of three. The difference in the diseases, we think, is sufficiently well established to require no fresh comment, as is also the treatment of genuine croup.

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* Guersent, as quoted by Dr. Cheyne, Art. Croup, Cyclopedia Pract. Med.

In examining the body of the second case, the condition of the trachea, free from mucus and pale, was very striking, whilst the bronchia were lined throughout with tubes like boiled macaroni.

Sydenham mentions that inflammation of the tonsils sometimes extends to the trachea, producing croup;* Bayley mentions that, in fatal cases of croup, he had found ulcers on the tonsils;† other writers have made similar observations. Dr. Cheyne, in a note to his very able article on croup in the Cycloped. of Practical Medicines, mentions three cases, which would seem to be of the same character as those which are here given.

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* Wallis' Sydenham, vol. i., p. 414.
† See Dr. R. Bayley's letter to Dr. W. Hunter.

PART SECOND.

Critical Analysis.

Art. VIII.—*Human Health; or the Influence of Atmosphere and Locality; Change of Air and Climate; Seasons; Food; Clothing; Bathing and Mineral Springs; Exercise; Sleep; Corporeal and Intellectual Pursuits, &c., &c., on Healthy Man; constituting Elements of Hygiène.* By Robley Dunglison, M.D., Professor of the Institutes of Medicine in Jefferson Medical College, etc. A new edition, with many modifications and additions. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 464.

The first thing that strikes us here is the change of title compared with the former edition of 1835; and this is a change that betokens the increased tact of the writer. Indeed, the same remark is justly applicable to the whole volume, which has undergone a complete revision. Since the publication of the former edition, as is justly observed by the author, the subject of Hygiology has received the fostering care of governments, which have investigated the subject very extensively in many of its relations. Many interesting sanitary inquiries and excellent reports, constituting the most valuable contributions to hygiology and vital statistics, have been thus made. The general views entertained as regards the salubrity or insalubrity of differing occupations, and more particularly as respects the factory system, have undergone a change through the results of these researches, which proves that the evil consequences attending these pursuits are due less to them *per se*, than to the hygiènic accompaniments of the *great town*, and much more to the *domestic* than to the *industrial* relations of the operative. It is thus conclusively proved that a low physical condition, as regards the social scale, is necessarily connected with a high mortality, and with a low moral condition; in other words, that vice, misery, early death, and a rapid increase of the population, are co-existent, and *vice versâ.* These are facts of the highest importance, equally to the physician, the philanthropist, the philosopher, and the Christian; for it has been clearly demonstrated that while health is improved and the mean duration of life is extended, through proper hygiènic measures, crime is, at the same time, diminished, and prisons are emptied.

An annoying circumstance, at least to a reviewer, connected with this volume, is the absence of a table of contents, which imposes upon him the necessity (not often done, it is said) of looking over the pages. The title, however, is so comprehensive, that it almost answers the same purpose.

As the former edition has made the general character of this volume pretty well known, it is deemed unnecessary to go much in detail, save what regards the new light thrown upon the highly interesting subjects of hygiology and vital statistics, by recent investigations undertaken by governments. But as we have, in our late numbers, given, perhaps, a surfeit of hygiène to our readers, our remarks upon this volume will be restricted to the subject of vital statistics.

Vital statistics, unlike the remaining subjects of this volume, which admit of easy compilation, require to be *studied.* But the author does not appear, as we are reluctantly compelled to say, to have given that attention to this question which its high importance demands. The book certainly contains some very gross errors in this respect, several of which we will now lay before the reader. For example—

> "The annual mortality of London, in 1700, was 1 in 25; in 1751, 1 in 21; and in 1801, and the four years preceding, 1 in 35; in 1811, 1 in 38; in 1821, 1 in 40:—*the value of life having doubled in London within the last eighty years.*"—P. 117.

The error of treating the proportions of deaths to the population as equivalent to the average ages of death, is one that has been made by nearly all statistical writers; and this fallacy is clearly pointed out by Mr. Chadwick in the Appendix to his Supplementary Report on the Sanitary Condition of the Laboring Population of Great Britain, being the "Results of a Special Inquiry into the Practice of Interments in Towns." It is stated, for instance, in his work on Annuities and Reversionary Payments, by Dr. Price, that the annual ratio of deaths in London, within the bills of mortality, was about 1 to 22 of the population; and this he regards as equivalent to the proposition that the average duration of life to all who died was twenty-two years. Mr. Süssmilch commits the same error relative to the dukedom of Wurtemburg; and the same charge rests against statisticians of the high eminence of Mr. Milne, Dr. Bisset Hawkins, and Dr. Southwood Smith, the last of whom says:—

> "It has been shown that the average mortality at present at Ostend is 1 in 36, which is the same thing as to assert that a new-born child at Ostend has an expectation of 35½ years of life."

Although Dr. Dunglison does not inform his readers how the calculation of a duplication in eighty years is made, yet this is the mode. It is usually asserted by writers that, at the commencement of the last century, the proportionate ratio of deaths in London, so far as the estimates of the number of a people, in the absence of a census, may be relied on, was as much as 1 in 20. At the period of the first census (1801), the ratio, within the bills of mortality, had fallen to 1 in 35; and, at the present time, it is calculated to be 1 in 40. Hence it is obvious that a very great amelioration in mortality has occurred within a century; but it is said, in nearly all works treating on this subject, that the value of life in London, because the ratio of deaths has diminished one-half, has doubled within this period, which is certainly a very gross error.

This error of a duplication of the mean duration of life, in London, within a century, has not been exactly copied by the author before us; but he has actually magnified it, by taking the seventy years between 1751 and 1821, in which the ratio of deaths to the population has not been diminished quite one-half, and thus reducing the period to eighty years. Now, we will show satisfactorily that, *instead of a duplication of the mean* *duration of life in London within eighty years, the increase has not been more than four years and nine months within* 100 *years.*

Mr. Chadwick, who is very happy in exposing the errors that have been created and maintained by this mode of calculation, namely, the regarding of *the proportion of deaths to the population as equivalent to the average ages of deaths*, says:—"That in no class of persons, in no district or country, and in no tract of time, has the fact hitherto appeared to be in coincidence with this hypothesis; and also that returns of the proportions of deaths to the population, when taken singly as the exponents of the average duration of life, are often mischievously misleading, exaggerating those chances of life sometimes to the extent of double the real amount. If Dr. Price, instead of resting satisfied with Süssmilch's hypothesis, had taken the actual ages of the dying within the bills of mortality, he would have found only a casual approximation to the hypothesis for the whole metropolis; and if he had taken the worst-conditioned districts, that, as applied to them, it was in error full one-half. On Mr. Milne's own data it appears that the proportions of deaths to the population at Carlisle, instead of coinciding with the ascertained average ages of death, 38·72, were, in the year 1780, 1 in 35; in 1787, they were 1 in 43; and in 1801, they were 1 in 44. Having caused an average to be deduced from the actual ages of 5,200,141 deaths which occurred in the Prussian States from 1820 to 1834, instead of 36 years, the actual average age of deaths was only 28 years and 10 months. The average ages of death in France, as deduced from Duvillard's table, founded on the experience of one million of deaths, instead of being 36 years, was 28 years and 5 months."

Again he remarks:—

> "In illustration of the errors occasioned by taking the proportions of deaths as the exponent of the duration of life; if we take the proportion of deaths in the district of Islington, with its population of 55,720, we find the deaths for the year only 1 to every 55 of the population, which would appear to be a highly healthy standard; whereas, when we examine the average age of death of all that population who have died during that year, we find it to be only 29 years: in other words, we find that the average duration of the period of existence has even in that district been shortened by at least nine years to all, and to an extent of at least six years on the average to the class of adults. If we examine the pressure of the causes of death upon each class of the community, in the same district, we find that this class of artisans, instead of attaining 39 *years*, have, on the average, been cut off at 19 years; and hence that children and adults, and on the average all those of the laboring classes who have died, have been deprived of 20 years of the natural expectation of life; and that even the class of adults who have died have been deprived of 15 years of working ability, involving extensive orphanage and premature widowhood. If we take such a district as Bethnal Green, inhabited by weavers and a badly conditioned population, the returns of the proportionate number of deaths to the population (1 in 41) would lead to the supposition of an average vitality of nearly double the real amount, which appears from this year's return to be only 22 years for the whole population. For working classes in that district it is no more than 18 years."—Pp. 240, 241.

Let us now proceed to the demonstration of our proposition, that, in London, *instead of a duplication of human existence, on the average, within eighty years, the extension has not been more than four years and nine months, within* 100 *years.*

Mr. Chadwick having calculated, from the earliest to the latest returns published, the average ages of death within the bills of mortality in the metropolis, the following results were obtained :

Of all returned as having died during the

	The average Age was	
	Years,	Months.
22 years, from 1728 to 1749	25	1
25 years, from 1750 to 1774	25	6
25 years, from 1775 to 1799	26	0
25 years, from 1800 to 1825	29	0
6 years, from 1825 to 1830	29	10

Instead of a *duplication within eighty years*, as Dr. Dunglison tells his readers, it is thus demonstrated, from a calculation based on the average ages themselves, that the mean duration of life has increased only about *one-fifth in a century*, that is, *four years and nine months !* Even this slow general improvement has taken place only in particular classes. Of the whole of the working classes of the metropolis, the average age of death is, even now, not more than 22 years ; and "in large sub-districts," says Mr. C., "if we could distinguish accurately the classes of deaths, the average would be found to be not more than half that period : a rate of mortality ascribable to increased over-crowding and stationary accommodation, greatly below anything that probably existed at the commencement of the century."

It is only in perfectly stationary populations and perfectly stationary causes of death, that the ages of the population from the proportion of deaths, could coincide with the duration of life in years ; and the following remarks by Mr. Chadwick will show that the general physical condition of the population is the chief test of the pressure of the causes of mortality.

> "The erroneous conclusions as to the ages of the populations from the proportions of deaths, have perhaps arisen from assumptions of the existence of states of things rarely, if ever, found, namely, perfectly stationary populations and perfectly stationary causes of death. I have been asked 'If 1 out of 40 die yearly, must not the average age of all who die be 40 years ?" The answer, by actual experience, as we have seen, is, that it is often not 30 years ; and perhaps the reason why it is not so will be most conveniently illustrated by hypothetical cases. For example, let it be assumed that in any given year 40 persons die out of 1600, which is in the proportion of 1 to 40, and in consequence of an unusual prevalence of measles, or some disease to which children are subject, the greater number of deaths occur amongst the infant portion of the population, and hence, out of the 40 deaths, 20 occur at 5 years of age, 10 at 25, and 10 at 60. Then the total existence had, would have been (20×5) + (10×25) + (10×60 = 100×250 +600 = 950 years, and this divided by 40, the number who died, would give 950-40 = 24 years nearly, as the average duration of life to each of the 40 who died.
>
> "On the other hand, suppose a severe winter, in which the peculiar causes of mortality may have pressed unusually heavy upon the older lives, and let the numbers who died have been 20, at 60 years of age ; 10 at 40 ; and 10 at 5 ; in such case, the total existence enjoyed would have been (20×60) + (10×40) + (10×5) = 1200+400+50 = 1650 years, which, divided by 40, would give 1650-40 = 41¼ years as the average duration of life to each.
>
> "And again, where, in fact, the proportion of deaths in one year may be represented as 1 death out of 20 of the population : the average existence enjoyed may be greater than when 1 in 40 died, for the reason given in the former case. As

for example, in the year when 1 in 20 died, it may have happened that the deaths were among the older lives, and that, taking one with another, the average age of all who died might be 50; while in the other case the mortality might have been amongst the infant population, when the average age might have been 20. If the proportion of 1 in 40 or 1 in 20, were to obtain each year continuously, taking one life with another, the average duration to a population just born, of whom 1 in 40 died, and whose place should be supplied each year by a new birth, would be about 20 years to each life, or one-half; and of a similar population, of whom 1 out of 20 died annually, the average duration of life to each would be about 10 years, or one-half the period at the expiration of which all the lives would have expired.

"When these examples are considered, it will be understood that the average age of death may remain stationary, or may go on increasing, whilst the proportions of death remain the same, or vary. The actual mortality of most districts is found to be coincident chiefly with its physical condition, and is most accurately measured by the years of vitality which have been enjoyed, *i. e.*, by the average age of death. The numbers of deaths increase or diminish considerably, and frequently create erroneous impressions, whilst the average ages of death are found to maintain a comparatively steady course, always nearest to the actual condition of the population, and give the most sure indications.

"The chief test of the pressure of the causes of mortality is, then, the duration of life in years: and whatever age may be taken as the standard of the natural age or the average age of the individual in any community, may be taken to correct the returns of the proportions of death in that same community. For example, in the returns of the St. George's Hanover Square district, it appears that in 1839, the proportion of deaths was 1 to 50 of the population; but the average number of years which 1325 individuals who died during that year had lived, was only 31 years, or 8 years below the average period of life in Carlisle. There was then in that district during that year a total loss of 10,600 years of life, which at 39 years may be considered as equal to an excess of deaths of 272 persons, and in a healthy state the proportions of deaths should have been 1 in 63 instead of 1 in 50 of the population. The excess in numbers of deaths in the metropolis has been measured by this standard, the total number of years of life would in a healthy community have been divided in portions of not less than 39 years to every individual who died.

"The effect of migration or of emigration, in disturbing the results of returns of the average ages of death in particular localities, appears to be commonly much exaggerated."—Pp. 242, 243.

Any further evidence in proof of the gross error thus committed by our author, is deemed wholly unnecessary.

The next point in vital statistics to be noticed is in reference to the fact, *that there is no exact ratio between the mortality and the longevity of a district.* Speaking of a table of longevity relative to certain counties in Virginia, Dr. D. observes:

"It is somewhat singular, too, that the proportion of slaves above 100, should be largest in one of the most unhealthy counties of the table."—P. 109.

Now we cannot see that any fact observed in nature should excite our surprise, when such fact, as for instance the daily rising of the sun, is known to every one. No man in the least acquainted with vital statistics, can be ignorant of the law, as stated by Mr. Rickman, of England, that "*the proportion of existing centenarians is no valid indication of national health or longevity.*"

This question is fully discussed in our second volume, p. 315, *et seq.*, to which we would refer the reader, curious on the subject, as we shall here present only some general facts. Evidence, is, indeed, presented, on every hand, proving that centenarians, instead of being an indication of the vitality of the masses and of general longevity, are found in the greatest proportion in the most unhealthy populations. That these individuals possess a mere tenacity of life, which seems unsusceptible of explanation, is a supposition referred to in the Report on the Sanitary Condition of the Laboring Population of Great Britain :

> " Some constitutions are found to resist vaccine matter. Here and there, constitutions appear which resist all the noxious influences by which they are surrounded, and attain extreme old age. Not unfrequently we find the existence of these solitary individuals referred to as proofs of the general salubrity of the very circumstance under which generations have fallen and been buried around them. It is a singular fact, as yet unexplained, that the greater proportion of centenarians are of the laboring classes ; and that instances of them have from time to time appeared amidst the crowded populations in some of the worst neighborhoods of London, where the average duration of life is the lowest. It is remarked by M. Mallet, that in Geneva extreme old age has not participated in the prolongation of life which has taken place in the less advanced ages. In the periods of from 60 to 70 years of age, the amelioration is inconsiderable ; after 70 years, there is no perceptible improvement ; after 80 years, the aged have, indeed, a little less probability of life at the present time than they had in the 16th century. Centenarians, who were not rare in the 16th and 17th centuries, now disappear ; during the last 27 years, Geneva has not produced a single one."

But to comprehend, in its fullest extent, this unexpected result, it is necessary to give a general view of the vital statistics of Geneva for the last three centuries. This is furnished in the *Annales d'Hygiène, Tome* xvii., in a most valuable paper of 168 pages, entitled, " *Récherches Historiques et Statistiques sur la Population de Genève, son Mouvement annuel et sa Longévité, depuis le* xvi^e *siècle jusqu'à nos jours* (1549–1833). *Par* EDOUARD MALLET, *Docteur en droit, membre, etc.*" It must suffice, however, to give general results only so far as will serve to illustrate the relations in which centenarians stand relative to the other laws of population and mortality. The *probable* and the *mean* durations of life in that city have increased in the following ratios :

PERIODS.	PROBABLE LIFE.				MEAN DURATION OF LIFE.			
	Years.	Months.	Days.	Propor.	Years.	Months.	Days.	Propor.
1560—1600	8	7	26	100	21	2	20	100
1600—1700	13	3	16	153	25	8	2	120
1700—1750	27	9	13	321	32	7	22	153
1750—1800	31	3	5	361	34	6	11	162
1800—1813	40	8	0	470	38	6	0	181
1814—1833	45	0	29	521	40	8	7	191

It is thus seen that the probability of life to every individual born, was, in less than three centuries, doubled more than five times ; and yet, directly in the face of this extraordinary fact, we have the equally extraordinary result, that with the *prolongation of the mean term of life, the number of centenarians has gradually diminished*, as has been shown in the extract just made. But we will give the result in Dr. Mallet's own words :

> " Cependant la vieillesse n'a point participé à la prolongation de vie qui a eu

lieu dans les âges moins avancés. De 60 à 70 ans l'amelioration est très faible : à 70 ans elle est nulle. Depuis 80 ans, le vieillard a un peu moins de probabilité de vie dans l'époque actuelle qu'il n'en avait au xvi^{e} siècle. *Les centenaires, qui n'étaient pas rares aux* xvi^{e} *et* xvii^{e} *siècles, disparaissent maintenant : depuis 27 ans Genève n'en a pas produit un seul. Loin de marcher vers une carrière patriarchale, la vieillesse a reculé et perdu du terrain.*"

Thus far, adds Dr. Mallet, we have seen no population rich in centenarians, save those in which the mean duration of life is short.

This is, indeed, a universal fact. Look, for instance, in the *Annal. d'Hyg.*, Tome xv., which contains a contribution by Sir Francis D'Ivernois, who arrives at the conclusion, that an *unusual number of centenarians, so far from being an indication of the vitality of the masses, is rather a proof to the contrary.* Again, Dr. Odier, in the *Bibliothèque Britannique de Genève*, as long ago as 1797, drew the inference, that *a high ratio of centenarians does not imply an equally great probability of life; but the contrary.* The opinion of Mr. Rickman relative to England has been already stated ; and lastly let us refer to the Fifth Registration of England, where a comparison is made, by way of contrast, between short-lived Liverpool and the salubrious district of Surrey ; and it will be seen, that while the former has eight centenarians, the latter has but a single one. It may be added that London, a century ago, had three times as many as now, when the condition of her population, *though the value of life has not doubled in eighty years*, has become vastly improved. Yet the writer before us who professes to teach vital statistics, tells us, that the fact, that one of the most unhealthy counties of Virginia has the largest proportion of colored centenarians, is " *somewhat singular !*"

There still remains another point of vital statistics, upon which we feel the unpleasant necessity of making some further strictures. It has been inferred by an English writer, Dr. Madden, from a comparison of the ages of learned men, that longevity was favored by the study of the arts and sciences, while, in literary pursuits, in which the imagination is vigorously exerted, he thinks that there is a much greater wear and tear of the system. To ascertain the influence of different studies on the longevity of authors and artists, Dr. M. selected from each of the various departments of literature, art, and science, twenty of the most eminent names, without any regard to the ages of those who presented themselves to notice ; and, accordingly, the following average duration of life and order of longevity were adduced :

	Average Years.	*Average Age.*
Natural Philosophers,	1494	75
Moral Philosophers,	1417	70
Sculptors and Painters,	1412	70
Authors on Law and Jurisprudence,	1394	69
Medical Authors,	1368	68
Authors on Revealed Religion,	1350	67
Philologists,	1323	66
Musical Composers,	1284	64
Novelists and Miscellaneous Authors,	1257	62½
Dramatists,	1244	62
Authors on Natural Religion,	1245	62
Poets,	1144	57

Now, our object in introducing this table here is to show that no writer acquainted with the principles of vital statistics, would place such data upon his pages as worthy of reliance. Dr. Dunglison, it is true, makes the remark, "that in the formation of all such tables, much room is allowed for the intrusion of error. Different individuals may have different views, as regards those who are the most eminent, and the greatest discrepancy may be exhibited in the results, although the investigators may have been equally disposed to discard intentional error." Now, this is an objection that would occur to the mind of any ordinary observer, but it is not such a one as he, versed in vital statistics, would make.

The scale of longevity here given by Dr. M., it is evident enough, is based mainly upon the difficulty experienced in acquiring such a reputation in science or literature as would carry the individual down the stream of posterity. Hence it would be extremely absurd to regard these average ages at death, as the longevity of this class compared with that of any other; and even as respects the different literary and scientific pursuits composing the class given above, a comparison is but partially allowable. Dr. Madden, as the result of his researches, is especially desirous of inculcating the opinion, "that the vigor of a great intellect is favorable to longevity in every literary pursuit, wherein *imagination is seldom called on.*" Now, in calculating the probability of life in any class of individuals devoted to a particular pursuit, whether corporeal or mental, it is necessary to start from that period in life which is the average age of entering upon such occupation. Hence, as the imagination of the poet is more early developed than the mature judgment required on the part of the natural or moral philosopher, to secure him the reputation necessary for being selected as one of the above table, it follows that the average age at death is here no fair test of comparative longevity. The powers of imagination may be abundantly developed at as early an age as fifteen years,* while it is seldom that a man obtains a distinguished reputation as a moral or natural philosopher under the age of forty. Some idea of the difference thus produced may be formed from the annual decrement of life, which among 100,000 born in England, is, at the age of fifteen, 68,627, and at forty, 53,825; or if we assume that a poet at twenty-five will have as much reputation as a moral or natural philosopher at forty, the following will be the results:

	Age. Expectation of Life.
Natural Philosopher, . .	40 + 27·14 = 67·14
Poet, ...	25 + 36·99 = 61·99
	5.15

Here the difference in the expectation of life is upwards of five years, and if the calculation for the poet were made at twenty, it would be almost seven years.

In the last Registration of England, the inapplicability of the average age at death, in the investigation of the agency of occupation, rank, and profession upon health and mortality, is clearly demonstrated.

> "The numbers," says the Registrar-General, "following different professions, fluctuate more than the general population; the relative proportion of young and aged persons varies from year to year; certain professions, stations, and ranks are only attained by persons advanced in years; and some occupations are only

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* Our distinguished townsman, Mr. Bryant, wrote pieces, which were published, before the age of ten. At thirteen, a small volume of his poetry was published; and at seventeen, he wrote that admirable piece, entitled "Thanatopsis." Pope's Ode on Solitude was written at the age of twelve, and his Ode to Silence, soon after.

followed in youth; hence it requires no great amount of sagacity to perceive that "the mean age at death," or the age at which the greatest number of deaths occurs, cannot be depended upon in investigating the influence of occupation, rank, and profession upon health and longevity. If it were found, upon an inquiry into the health of the officers of the army on full pay, that "the mean age at death" of "Cornets, Ensigns, and Second Lieutenants" was 22 years; of "Lieutenants" 29 years; of "Captains" 37 years; of "Majors" 44 years; of "Lieutenant-Colonels" 48 years; of general Officers, ages still further advanced—and that the ages of Curates, Rectors, and Bishops; of Barristers of 7 years' standing, leading Counsel and venerable Judges—differed to an equal or greater extent, a strong case may no doubt be made out on behalf of those young, but early-dying Cornets, Curates, and juvenile Barristers, whose "mean age at death" was under 30! It would be almost necessary to make them Generals, Bishops, and Judges—for the sake of their health. The Assurance Societies are happily so considerate and liberal that they do not attach the slightest importance to the mean age at death, but assure the lives of young men of all the professions at the age of 24 upon the assumption that they will live 38 or at the least 31 years, and pay 38 or 31 annual premiums on an average before they die; while they make the Bishops, Judges, and Generals, who go to insure their lives at 60, pay as if they would live but 13 or 14 years."

This is, indeed, a happy illustration, for, according to a return of the ages of 4866 British officers, the cornets, ensigns, and second lieutenants, had an average age at death of 21 3-10ths years, and the lieutenant colonels, 47 years, while the first lieutenants, captains, and majors, had an intermediate average age at death respectively of 28 12-19ths, 36, and 43 1-8th years. We are thus taught the fallacy of comparing the average age at death of the poet with the natural or moral philosopher. But as a still more absurd application, in this respect, of the mean age at death, the Registrar-General states, that it has been somewhere used as a proof of the destructive effects of the employment of dress-makers. "If the inquiries," he says, "had been extended to boarding schools, or to the boys at Christ's Hospital, the average age at death would have been found still lower." Now, as it appears that the majority of dress-makers are between the ages of 16 and 26, and as it is said that, if they die after marriage, they are not designated thus in the Register, the phenomenon admits of ready explanation.

Let us illustrate the error of Dr. Madden's comparative ages, a little farther, by reference to Dr. Lombard's statistics of Geneva,* which comprise the period from 1796 to 1830, and embrace 8488 deaths; and of these deaths, as the object is to determine the influence of professions upon the duration of life, all are males of sixteen and upward.

Dr. Lombard presents, in the order of longevity, a list of forty-two arts, trades, and professions; and at the head of this category stand, first, Magistrates with an average age of 69·1 years; secondly, persons with a fixed income, having a mean of 65·8 years; thirdly, Protestant Clergymen with a mean age of 63·8; and thus it descends to painters and varnishers, who have an average age of but 44·3 years. Although this shows, what is a fact, that the duration of life varies greatly among different classes of the population; yet it is easy to see, as in Dr. Madden's table, that the average age at death is liable to very great error in investigating the influence of rank, profession, and occupation upon health and longevity, inasmuch as some of these are attained only by persons advanced in years, while other occupations are followed only in youth. As colonels and generals, as we have seen, have necessarily a much more advanced age at death, than brevet-second lieutenants, and so of venerable judges and bishops compared with barristers and pastors, it requires no great sagacity to see why magistrates stand at the head of the list of longevity in Geneva ; and the same remark applies to the comparison of poets and natural or moral philosophers.

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* De l'Influence des Professions sur la Durée de la Vie. Recherches Statistiques. Par le Dr. H. C. Lombard, Médicin de l'Hôpital Civil et Militaire de Genève.

If the republic of Geneva was like that of our own country, there would have existed a general movement of the population from the lower into the higher ranks of society. Thus we find in our own city of New York, that the shop-boy grows into the merchant, the alderman, and finally the mayor ; and as these promotions are slow as a general rule, it is not difficult to perceive, as the higher positions are attained by those only who have a long life, why the magistrates of Geneva, as just remarked, occupy the highest point on the scale of longevity. If health depended on being a magistrate, then were it an admirable hygiènic improvement to make magistrates of the whole community ; and hence, too, in a thriving country like ours, if the mean age of the wealthy and the indigent were made the criterion of the relative health and longevity of the lower and upper classes, the difference would obviously be exaggerated.

If the professions, during the period under observation, are stationary, or if they all increase at the same rate, and the numbers at each age of life continue in the same proportion, the results will be conformable to truth. The danger of error lies in the circumstance, that if any profession, from favorable causes, increases in number, the augmentation is due to a disproportion of *young* men ; and hence the mean of the ages of death, which would be diminished, would be due, not to the unhealthiness of the profession, but to the disproportionate number of young men.

Our object here, is not to criticise Dr. Lombard, who does not forget to caution his readers against comparing the mean age at death, of the magistrates with the various occupations, but to show the fallacy of Dr. Madden's mode of determining this question, which has been adopted by Dr. Dunglison, and, in fact, by nearly all other writers.

It may be here stated that the mortality of no population, or of any class or profession, can be accurately determined without having the ages of the *living* and the *dying* at a given time, that is, an enumeration of the *ages of the living* out of which the deaths occurred at the several periods of life ; and this is a relation which has never been ascertained for any country, except Sweden and England.

Leaving the reader to form his own opinion as to the profundity of knowledge possessed by our author upon the subject of vital statistics, we will now proceed to show, upon correct statistical principles, the duration of life enjoyed by individuals devoted to science and literature.

The data upon which our results are based, and which are not referred to by Dr. Dunglison, consist of 719 members of the three French academies, entitled "Académie Française," "des Inscriptions," and "des Sciences," and extend over the period from 1635 to 1840. These calculations have been made by M. Benoiston de Châteauneuf, in his researches relative to the duration of life among "*Savans et les Gens de Lettres*."*

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* De la Durée de la Vie chez les Savans et les Gens de Lettres. Par M. Benoiston de Châteauneuf. *Ann. d'Hyg.*, Tome XXV.

If it is true, he says, that riches add to the number of our days, how much more must science, which is the truest riches, have the happy privilege of prolonging our existence. And the additional remark may not be out of place, that these three academies afford confirmation of the old opinion, that a man of letters has very rarely a son that succeeds to the talents of the father. On the contrary, as regards the sciences, it is not rare to find, among these academicians, as, for instance, in astronomy, botany, and other departments of natural history, illustrious examples, during the two centuries, in which the talents and virtues of the father were transmitted from age to age.

Of the 1100 academicians, only 719 have been included in the tables of M. de Châteauneuf, as the requisite data for the calculations could be ascertained in these alone. Besides, all members who did not come under the names of philosophers or men of letters were excluded, and also all foreigners of every class, with the exception of such names as MM. de Humboldt, de Saussure, de Candolle, etc. The mean age of all these academicians, at the period of their election, was forty-four years and two months; and this is to be considered as the period of their birth—their birth as academicians—after the same manner as general tables of mortality commence with 0.

But, in regard to this age, some difference is observed in the different academies. It is for—

L'Académie Française, ...	46	years and	2	months.
L'Académie des Inscriptions, . . .	46	"	0	"
L'Académie des Sciences, . . .	41	"	3	"

It thus appears that men of science acquire, at an earlier date than men of letters, that degree of reputation which secures an election as an academician; for, while science is characterized by something positively true and really useful, the productions of the mind, that is, works of taste, rarely obtain unanimous praise. Thus the discoverer of the laws of gravitation found a place, at the age of twenty-four, in the Royal Society of London, and the author of a new system of geology was chosen, at the same age, to a seat in the Royal Academy of Sciences at Paris; while the immortal author of *Jerusalem Délivrée* received, after having passed his fiftieth year, the honors of a tardy triumph, and after he had seen the most learned body of Italy dispute with him his glory, and designate in his poem more of faults than of beauties.

The 758 members of the three academies who exist no more, lived 52,188 years, which give to each one of them a mean duration of life of 68 years and 10 months; but, as in the case of admission, which had a mean of 44 years and 10 months, this ratio varies in each of the three learned bodies. It is for—

L'Académie Française, ...	69	years and	3	months.
L'Académie des Inscriptions, . . .	69	"	7	"
L'Académie des Sciences, . . .	67	"	11	"

And the mean duration for an academician is at—

L'Académie Française, ...	23	"	1	"
L'Académie des Inscriptions, . . .	22	"	8	"
L'Académie des Sciences, . . .	26	"	7	"
Mean, ...	24	"	7	"

It may be here remarked, that of 758 academicians, who together formed the mean age of 68 years and 10 months, 394, or, more than the half, passed that epoch, and that of this number, a third (145) passed still much further into the vale of years. Thus—,

124 lived from 80 to 90 years, and
21 " 90 to 100 "
145

Repeating the results of the mean age of admission, which is 44 years and 2 months, and of the mean duration of the life of each member, as an academician, which is 24 years and 7 months, we are now prepared to institute a comparison with the law of mortality established by Deparcieux from the lists of the French tontines from 1689 to 1696, which show that then, which was the period when some of these academicians were born, the expectation of life at the age of forty-four or forty-five, was equally about twenty-five years; but, at the same time, it must be borne in mind, that the nominees of the tontines were selected individuals, who, as is well known, have a much lower mortality than the population at large. M. de Châteauneuf further compares the expectation of life among the academicians with some recent French tables by M. de Montferrand, which show an expectation, at this age, of not more than 24 years and 2 months. Thus additional confirmation is afforded of superior longevity among the *savans*. In the life-table given in the Fifth Annual Report of the Registrar-General of England, based upon the census of 1841 and the registration of all the deaths, the ages of the living out of which the deaths occurred being enumerated, and which has consequently all the requisites of correctness, the expectation of life, at the age of forty-five, is 23·9 years; in Sweden and Finland, it is 22·1. In the large towns of London and Liverpool, as determined also in 1841, the expectation of life at the age of 45, is in the former but 20 years, and in the latter but 18, while in the more salubrious rural district of Surrey, adjoining the metropolis, it is as high as 24 years.

Deparcieux also made some calculations relative to the members of the Academy of Sciences; and, assuming that the mean age of their admission to membership was thirty-five years, he gave them an existence of sixty-five. M. de Châteauneuf, likewise, took the ages of a thousand *savans* at hazard, from the *Biographie Universelle*, all born in Europe, and in the eighteenth century; and their mean age at death he found to be 65 years and 10 months. This is certainly a marked concordance.

It is thus seen that upon the philosopher and the man of letters is bestowed a mature longevity, which is, doubtless, the result of habits of serious study and of profound meditation upon grave and elevated subjects; and this gives to his actions a calmness and moderation, which establish that harmony between the *morale* and the *physique*, that is regarded by M. de Châteauneuf as, perhaps, the only condition of a long existence. It may, indeed, be now regarded as an established axiom, that literary pursuits, whether they require the exercise of the judgment or the imagination, are directly favorable to longevity. That genius is often accompanied with a corporeal system unusually susceptible to impressions, both internal and external, is, no doubt, true; but even here, as the evils that arise are dependent on collateral circumstances,—a neglect or infringement of the hygiènic laws appointed by Divine Wisdom—they are not chargeable to the mental occupation. In addition to the causes before mentioned, connected with vital statistics,—why the life of the poet should be the most contracted among those devoted to art, science, and literature, is, the circumstance of the early appearance of their productions, the celebrity of which leads them into a certain kind of society, where habits destructive to health are contracted. Besides, the excitability of their temperament is apt to lead them to indulge in ardent spirits; for example, Burns, Dryden, Pope, Collins, Byron, and—but we will not drag any further the frailties of genius from their " dread abode."

But it is not the precious advantage of a long life alone that the culture of the science and of letters reserves for those who devote their existence to it; they find in it the sweet influence arising from honor and glory, which shed a halo even around the tomb.

It is only the portion of this volume devoted to vital statistics that we have thought worthy of very special notice, the remaining parts being of such a nature that they might be readily compiled by a very ordinary writer. We have hence taken the portion which might afford a test of the ability of the author, on the ground that vital statistics do not admit of compilation, but require to be closely investigated. We have shown that our author has compiled the magnificent blunder of a duplication of the mean duration of life in London in eighty years, while the actual extension of human existence, during a century, has not been more than four years and nine months. We have shown that a large proportion of centenarians in an unhealthy population, which he regards as a wonderful phenomenon, is a fact well known to every writer on population, and was known even in the last century. We have shown that his mode of investigating the law of longevity relative to the influence of arts, science, and literature, is totally unworthy of any writer making pretensions to a knowledge of vital statistics; and, in connection with this point, we have given data from three French academies which will instruct him how, in future, to investigate the subject.*

Art. IX.—*Traité des Maladies de Plomb ou Saturnines.* Par L. Tanquerel Des Planches, Docteur de la Faculté de Médecine de Paris. Paris: 1839. Tomes ii. 8vo. Pp. 550, 552.

A Treatise on Diseases produced by Lead. By L. Tanquerel Des Planches, Doctor of the Faculty of Medicine of Paris. Paris; 1839.

The rapid progress which our country is making in the arts, renders it desirable that the effects of the materials employed in them, upon the health, either of those who labor in them, or of those who make use of the manufactured article, should be known. It is well that we should be informed what processes prove injurious, and what remedies or preservatives have been discovered, or what precautions are to be used. There is no danger but that American skill and enterprise will avail themselves of whatever inventions or improvements, originating abroad, promise to facilitate the attainment of wealth. The spirit of gain may be relied upon for this, and the philanthropist has no need to interfere. But humanity dictates that the results of inquiry and experience, with the knowledge of which is connected the physical well-being of multitudes among us, should be spread before the public.

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* We had prepared an article for this Number, entitled "*Vital Statistics—its Nature and History,*" which was already in the hands of the compositor, when we received information of our successful competition for the Boylston prize. We purpose giving it in the next Number.

Lead is used in the arts in a great variety of ways; in more ways, probably, by far, than persons, who have given no particular attention to the subject, are aware. The sufferings to which they who work in it, or in the arts in which it is used, are exposed, and the dangers in other modes incurred from it, are known, it may be presumed, to but few among us, even of the profession. We every now and then hear of accidents, and sometimes death, occasioned by it, as when substances containing an acid, or in which an acid is produced by fermentation, are kept in glazed vessels, and sometimes when water used for drinking is conveyed in lead pipes. But these cases are generally dismissed without much thought. Few give themselves the trouble to inquire into the real effects of lead on the human constitution, or the various forms in which it may prove pernicious.

The work, the title of which we have placed at the head of this article, makes many startling developments; and we believe that its statements are entitled to entire confidence. It is no crude, hasty work, gotten up in the style of bookmaking but too common in these days. It contains the results of long and careful observation and experiment, by one who possessed opportunities which in this country do not exist. The author states what he has himself witnessed; he has collected and arranged a multitude of facts, and drawn his conclusions from them. He gives an account of diseases, their history, symptoms, the mode in which they were contracted, and the treatment employed, whether successful or unsuccessful. The work is one, the interest and utility of which are not confined to the medical profession. It is one from which all who have anything to do with lead, if it be only to live in painted apartments, may learn something. Even as a matter of enlightened curiosity, the information it conveys is worth having; but this is trifling compared with its subservience to the cause of humanity.

The author, L. Tanquerel Des Planches, begins by observing that, from a very remote antiquity, the colic produced by lead is the only form of saturnine malady which has particularly engaged the attention of observers; that other forms of it have either escaped their notice, or have been treated casually and very superficially, chiefly in connection with the colic. This defect he endeavors to supply, at the same time furnishing a mass of new facts on the subject of the colic, the form of the disease best known. He commenced his researches in 1831, and, in 1834, published an essay on Lead Paralysis. Since that time, he has pursued his inquiries with great care and minuteness; and his connection with the "Hospital of Charity," the chief receptacle for laborers suffering from lead in Paris and its vicinity, furnished him with the means of conducting his observations on a large scale. Very few who applied for advice at the hospital during the eight years preceding the publication of the present work escaped his attention He also frequently visited the apartments in which the workmen labored, and made minute inquiries there; he tried various methods of preserving the laborers from the deleterious effects of lead, and made chemical experiments in order to detect lead in the human system. The present work contains the result of these eight years' inquiry and observation.

We can give but an imperfect analysis of the work (extending to eleven hundred octavo pages) within the limits of a single article. But we will do what we can, selecting chiefly such parts as may be most interesting and important.

Disease occasioned by preparations of lead, Des Planches says, exists in four well-marked forms, which are independent of each other, though they may exist simultaneously, or follow one the other. These forms have not hitherto been well defined, and to avoid periphrasis, the author has been under the necessity of inventing terms for a part of them. They are the Colic, "Arthralgie" (from two Greek words, signifying pain in the limbs), Paralysis, and "Encephalopathie," (affection of the brain), the epithet Saturnine or lead, being added to each, to distinguish it from similar forms of disease originating in other causes. Of these, the first is by far the most frequent. Their relative frequency is as follows. Of the cases which fell under the author's notice, 1,217 were cases of colic, 0,755 of arthralgy, 0,127 of paralysis, and 0,072 of encephalopathy. One form seldom exists alone, but is accompanied, preceded, or followed by one or more of the others. One form predisposes to another, though the violence of one form is no indication that the other forms will be violent also; they may be moderate or light. The malady may develope itself in the same or in different forms in the same individual at different times, without any change in the circumstances of exposure. The circumstances of exposure do not determine the form in which the disease makes its appearance.

These and some other general conclusions to which the author has arrived, he states in his introduction. He then proceeds to treat of the action of preparations of lead upon the system before the development of saturnine maladies.

Lead may be taken into the system by breathing an atmosphere surcharged with particles of it, or by swallowing it mixed with food or drink; that is, by the respiratory or digestive organs. When thus introduced, in any large quantity, certain effects usually appear before disease developes itself; and by these, the primitive action of the poison called by the author primitive intoxication, may, in ordinary cases, be detected. These effects often manifest themselves very soon in those who labor habitually in an atmosphere loaded with the dust or fumes of lead, as in the manufacture of white lead, minium, litharge, or in wines, but not so soon, and rarely in such number, in those who are only occasionally exposed to such an atmosphere, as painters of buildings, and those who labor in type-foundries, and in the manufacture of earthen pottery; while in those who handle the metal only in its fixed state, and are not in contact with an atmosphere in which particles of it are disseminated, none of these primitive effects of the poison are discovered.

These effects, which are indications of the presence of lead in the system, but which precede the development of disease, are, a certain discoloration (which we cannot stop to describe) of the teeth, gums, and generally the mucous membrane of the mouth; a peculiar taste, generally sugary, styptic, and astringent, in the mouth; a certain indescribable fetor of the breath; and what is often very striking, a foul, earthy yellow of the skin, sometimes called the leaden-yellow tint, appearing chiefly in the face, and frequently confounded with the jaundiced yellow, from which, however, it may be readily distinguished by those who have had opportunity of observing the two. This is the effect of an alteration in the blood produced by the poison. Another effect sometimes witnessed is great emaciation. This is frequently general, but often more marked in the face, which becomes shrivelled, has a look of peculiar sadness, and exhibits all the appearance of premature age. There is usually no irregularity of pulse; rarely any quickening, or hardness; but, in almost all cases, the reverse; the beats, in persons affected, being from forty to fifty-five in a minute, when they were before sixty or seventy.

These primitive effects of poisoning by lead may exist independently of the maladies occasioned by it; they may precede the development of the malady from a few hours to entire years; and, sometimes, individuals may exhibit traces of them through life, and yet never be attacked by the saturnine maladies; but these maladies very rarely appear without being preceded by one or more of the above-mentioned symptoms.

We now come to the maladies themselves. Of these, the first is lead colic. This we need not stop to define. It is known under the name of painters' colic, and a variety of other names, which the author gives. He then traces its history as far as it can be collected from medical treatises, from the earliest times down to the present day. Distinct notices of the disease do not occur in writers of greater antiquity than Hippocrates. Yet the disease must have existed before his time. The art of mining, of casting, of working in metals, and especially lead, was cultivated with greater or less assiduity, as history informs us, among all ancient people. Where the fine arts and industry have flourished, painting must have been known, and colors employed, and those furnished by lead could hardly have been overlooked or neglected. Theophrastus, indeed, in showing the manner in which white lead used in painting was procured, describes the same processes very nearly with those now used. The disease, therefore, must have occurred, though no distinct traces of it are left in history.

Nicander, the most ancient medical writer after Hippocrates, whose writings have come down to us, gives a very exact description of it, recognizing also paralysis, occasioned by preparations of lead introduced into the stomach. Notices of the deleterious effects of lead are then traced down through Dioscorides, Galen, Aretæus, Paul of Ægina, and others among the Greeks and Latins, and Rhases, Hally-Abbas, and Avicenna among the Arabs. The last mentioned is more full on the subject than his predecessors.

During the middle ages, from the twelfth to the sixteenth centuries inclusive, several writers are mentioned as alluding to the subject, though no special treatise upon it has come down to us from those times. The seventeenth century produced many dissertations on lead colic. Among the authors referred to, are Citois on the colic of Poitou, Charles Lessois, and Stockhusen, who, living in a country of mines, made very important discoveries on the subject of emanations of lead. "From this time," says Des Planches, "the lead colic became much more frequent than before." And why? Because its symptoms were better known and the cause had been discovered, and the attention of physicians was directed to the disease. About the middle of this century, Wepfer addressed a letter to the government of Wurtemberg, in which he speaks of the colic and paralysis produced by wines adulterated with litharge, to render them more palatable. He is the first author who recognizes the cause of the colics produced by drinks adulterated by preparations of lead. Before his time they appeared as epidemics, but the cause to which they were to be attributed was unknown.

It is worthy of remark here, that, although the ancients were ignorant of the art of adulterating wines with litharge and other preparations of lead, yet it appears from Cato, Pliny, Columella, and others, that the Greeks, the Romans, and other ancient people, were in the habit of boiling the juice of the grape in leaden vessels in order to obtain a syrup, which they mingled with their wines to preserve them, to render them agreeable, and prevent acid fermentation. This practice was general, and the philosophers recommended it, of course believing it innocent. Thus, however, the acetate of lead must have been produced, and the result, from time to time, must have proved injurious. Occasionally, as Columella informs us, a piece of lead was introduced into the cask to prevent or retard acid fermentation. This must have been attended with a similar result. Disease, no doubt, occurred, but its origin baffled the skill of physicians; and, like the cause of many other maladies, was considered as involved in mystery.

The eighteenth century witnessed many publications on lead colic under different names; one of Dehaen, in 1745, on Colica Pictonum; of Huxham, about the same time, on the colic of Devonshire, England, proved by Baker and others to have been occasioned by the use of lead used about the cider-presses in that country; and several others, an account of which is given in the work before us.

Preparations of lead generally are more or less soluble in various liquids, mineral, vegetable, and animal. They are capable, too, of being reduced to the form of powder, or they may be volatilized; and taken into the system in either form, they are productive of disease. This is true of both the oxides and salts of lead.

It is a question of some importance, and one which has given rise to some discussion, whether lead applied directly to the skin can be absorbed in such quantities as to produce disease. Des Planches is confident, from various experiments, that it cannot, unless the epidermis be first removed, but it must be absorbed through the respiratory or digestive organs. It would seem not the less true, however, that the external surface may become the avenue of its introduction into the system. This has been inferred from the fact, that those workmen among the preparations of lead, who are careful to change their clothes and to practise frequent ablutions, are much less liable than others to the deleterious effects of their occupation. It is, doubtless, from the greater exposure of certain parts of the body that one of the distinguishing characters of the disease takes its origin, viz., the tremulousness of the hands, and the weakness of the carpal joint, called by the workmen, the *wrist-drop.* This disease has prevailed to some extent in the army of the United States. In 1831, as it was attended with obstinate constipation of the bowels and paralysis of the hand and fore-arm, the local effects might perhaps be ascribed to the circumstance, that, as it was necessary to moisten the white lead and apply it by means of a sponge, to their belts and gloves, the hands of the soldier were daily exposed to its action; and, as the belts were also rubbed with pumice-stone, the constitutional effects may be more directly attributed to the particles of lead inhaled. That this metal produces a specific derangement of the animal economy, of which the symptoms of colic are only a manifestation, is clearly evident; but that this agent may also produce a local disease, manifesting itself more strongly in the part to which it is immediately applied, would seem to be, in some degree, warranted.

Under the head of occupations which give rise to lead colic, we find, in the work of Des Planches, abundance of interesting matter. He gives a table indicating the occupations of 1213 individuals affected with the colic, all of whom fell under his observation, and all, except nine, in the Hospital of Charity, between the years 1831 and 1839.

Manufacturers of White Lead,	406
" " Minium (red lead),	63
" " Mine orange,	12
Painters of buildings,	305
Carriage painters,	47
Ornamental Painters,	33
Painters on Porcelain,	3
Gilders on Wood,	1
Painters and Varnishers of Metals,	2
Paper Stainers,	2
Grinders of Colors,	68
Manufacturers of German Cards,	13
" " Glazed Cards,	6
Belt Makers,	2
Perfumers,	2
Manufacturers of common Earthen Pottery,	54
" " a finer species of Pottery (Faiènce),	7
Refiners,	25
Plumbers,	14
Platers (in tin and lead),	8
Manufacturers of the powder of tin (used in polishing),	4
Workers in Tin,	4
Jewellers, Goldsmiths, and manufacturers of Toys,	4
Casters in Copper,	2
" " Bronze,	1
Type Founders,	52
Printers,	12
Manufacturers of Shot,	11
Lapidaries,	35
Cutters and Polishers of Crystals,	3
Laborers in Glass manufactories,	2
" " manufactories of the Acetate of Lead,	4
" " Nitrate of Lead,	3
" " Chromate of Lead,	3
Total,	1213

As a very large portion of those attacked with lead colic in Paris and the vicinity resort to the Hospital of Charity, on account of the celebrity of its ancient treatment, the table above given may be considered as indicating, with sufficient precision, the relative frequency of the malady among those engaged in the various arts in which lead is used. In all the occupations or arts enumerated in the table, lead is employed, and those who labor in them are, in one form or another, exposed to its action.*

Of these occupations, the most pernicious, as it appears, is the manufacture of white lead. Next comes that of the common house painter. Of those who labor in this occupation thirty or forty years, about one-fourth part are, once at least, attacked. This is to be attributed to the large quantity of white lead which is used, as a coat of this is first given which serves as a base for whatever colors are to be laid on The chromate of lead, and a little minium, and litharge, too, are occasionally used. The process of mixing the colors is particularly dangerous, and the oil of turpentine used for drying, by taking up particles of lead and diffusing them in the atmosphere, increases the hazard, as also the hazard of remaining long in fresh painted apartments. The most dangerous process of the whole, however, is the brushing over of old paint for the purpose of cleaning it in order to repaint, as thus a great quantity of dust of lead is raised, which fills the mouth and nostrils of the workmen. To prevent this, water or a moist brush should be used.

The prepared varnish, which is sometimes used, is rather a preservative, as it prevents the particles of lead from escaping into the atmosphere. Painters, who grind their own colors, are doubly exposed. Persons are sometimes attacked from sleeping in apartments recently painted, or from living with painters in rooms where they grind their colors and mix their paints.

Painters of carriages are less likely to suffer than house painters, because they use a less quantity of deleterious materials, and employ more varnish. Portrait and landscape painters, and others similarly employed, were occasionally attacked in former times, when they prepared and ground their own colors, and had the habit of cleaning their brushes in their mouths, as was the case with one individual, at least, who is recorded as suffering from lead colic and paralysis.

Gilders on wood occasionally make use of preparations of lead; varnishers of metals use them in large quantities; both are sometimes attacked, though rarely. Paper colorers are subject to attack chiefly from the process of preparing the materials by boiling, and not from the act of laying on the liquid, or paste, in which, with due caution, there is little danger.

The grinding of colors, by the hand, as white lead and yellow of chrome, as still practised in some establishments, is exceedingly fatiguing and pernicious. Formerly this was one of the occupations which sent the largest number to the Hospital of Charity. There are mechanical means now in use, however, which render it far less dangerous.

In the manufacture of German cards, white lead, minium, and litharge, are all used. The boiling of the materials is the part of the process particularly deleterious. This disseminates particles of lead in the establishment, which soon becomes covered with them, and must be cleaned every three or four days, a process which again loads the atmosphere of the apartment with poisonous materials. There is a process of making glazed cards, however, somewhat different, in which the grinding of the colors is the only part which is dangerous.

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* The author enumerates other occupations which give rise to the disease, as he has satisfactorily ascertained from testimony, but no cases fell under his observation.

Perfumers use preparations of lead, and especially white lead, in making certain cosmetics; and makers of belts and other similar articles, in blanching their materials; and both occasionally suffer in consequence.

In all manufactures of pottery, from the coarsest variety to faiënce and porcelain, the oxides of lead are used. Different parts of the process of the manufacture of common earthen pottery are attended with great hazard to the health, and in our author's catalogue of twelve hundred and thirteen individuals affected with colic, fifty-four contracted the disease in this way. Formerly cases of this kind were much more frequent in Paris than now, and the disease was known as the "potters' colic." The general introduction of *faiënce* and porcelain in the place of common pottery, by diminishing the number of persons employed in the manufacture of the last mentioned article, has now rendered the disease far less common.

The annals of science contain numerous facts which show that the use, as well as the manufacture, of glazed vessels may prove injurious. In Germany, in times past, cases of colic from this source have been so frequent as to arrest the attention of the public functionaries, and lead to the inquiry whether some substitute for lead might not be used for glazing vessels. When the varnish or glazing, however, is sufficiently hardened by the baking process, the danger from this source is greatly diminished, though fatal accidents frequently occur from the incautious use of glazed pottery.

In the manufacture of faiënce (imitation porcelain), the same materials are used for glazing, and the process is similar, and the workmen suffer less frequently only because they are exposed to a less quantity of the emanations of lead. Formerly, manufacturers of porcelain suffered in the same way from the use of oxides of lead. But all the porcelain manufactured in France at the present day is enamelled with feldspar, and the oxides of lead are not used, though still employed in the manufacture of the soft porcelain of England.

The oxides of lead also enter into the composition of various kinds of glass. Refiners of lead suffer exceedingly, as also those employed in the foundries; those employed in making tin ware, occasionally, from the use of lead in soldering, as also jewellers and goldsmiths, casters in bronze and copper, and more frequently lapidaries, all of whom make more or less use of lead. Those employed in making printing-types, in which lead and antimony are used, are very often attacked with saturnine maladies, many of them cooking and taking their food in the apartment in which they work. Printers, too, are occasionally attacked, from the pernicious habit of holding their types in the mouth, especially while making the proof-corrections. Laborers in other arts, in which lead is employed, are sometimes attacked; but we cannot dwell longer on this subject, of which the author treats very fully, stating many interesting facts.

The inquiries of Des Planches establish the fact, before, however, well ascertained, that all who are exposed to the action of lead under the same circumstances, are not equally liable to be attacked with colic; and the same is true of the other forms of lead-disease. He endeavors to ascertain by what laws the attack is regulated, or what circumstances favor the deleterious action of preparations of lead on the human system. He thus considers the influence of season, climate, age, sex, constitution, mode of life or regimen. The result is somewhat curious.

There are certain seasons of the year in which cases of lead colic are rare, and others when they are very frequent. It is true the difference may be attributed in part to the greater or less number of laborers employed at different seasons. Thus, in the manufacture of white lead, there are sometimes whole months, in winter, when the work ceases; and, in very cold weather, more than one half of painters of buildings give up labor.

The table above given states the occupation of twelve hundred and thirteen individuals attacked with lead colic. Here is a table which exhibits the seasons of the year in which twelve hundred and seventeen were attacked:

January, . . .	67	July, ...	190
February, . . .	77	August, . . .	127
March, . . .	95	September, . . .	92
April, ...	99	October, . . .	81
May, ...	115	November, . . .	78
June, ...	137	December, . . .	59
		Total, . .	1217

Thus, the greatest number of cases is observed to occur in the hot months, from June to August; and that this is the case, the author, who often visited the workshops, is confident, after making all proper allowance for the fact above alluded to, that less labor is done in the cold months. The number of cases, it will be seen, increases regularly from January to July, when it attains its maximum, then decreases to the end of the year.

Nothing can be determined as to the influence of climate, from want of a sufficient number of facts; but, from analogy, it may be inferred that the warmer latitudes favor the development of the malady. The symptoms are not modified by climate.

The following table exhibits the relative ages of the 1217 individuals before referred to.

From 5 to 10 years, . .	8	From 40 to 50 years, . .	277
" 10 20 " . .	80	" 50 60 " . .	118
" 20 30 " . .	244	" 60 70 " . .	39
" 30 40 " . .	445	" 70 80 " . .	6
		Total, . .	1217

Thus, the greatest number of cases occurs between the ages of thirty and forty. The majority of those who labor in house-painting are between those ages. Children are rarely employed in most of the establishments in which preparations of lead are used in any large quantity. When they have been employed, they have been frequently and severely attacked. Thus, in the manufactory of fancy paper and cards by H. Hangrand in Paris, the five or six children employed are often attacked; the adults less frequently. In other cases, it has been proved that children are peculiarly susceptible of the poison.

The author feels confident that females are less subject to attack than males under the same circumstances of exposure. Individuals of all constitutions and temperaments are susceptible of the poison—the sanguine, the nervous, the lymphatic, being attacked in about equal proportions. Habits of cleanliness, and good and nourishing food, favor exemption from attack, and intemperance in drink and excess of every kind predispose to it. An attack very often follows the next day or second day after a debauch. Monday is the day of the week when laborers in Paris are most frequently guilty of excess in drink, and the number of applicants for admission to the hospital on Tuesday and Wednesday is frequently unusually large.

Animals, as cats, dogs, horses, and poultry, are subject to colic of lead and other forms of lead malady, as well as man; and the deleterious effects of lead mines are occasionally observed at a considerable distance. But we have not room for detail.

The various symptoms and phenomena which attend lead colic are given by Des Planches, at great length, and with great minuteness, and are compared with the symptoms of analogous diseases with which it is liable to be confounded. He also enters into a discussion on the subject of what have been called vegetable colics, many of which are to be ascribed to lead. He considers particularly those of Madrid, of Devonshire, of Poitou, of Normandy, and of the Indies. But we are compelled to pass over the whole. The author gives a history of the treatment of the colic, which he found long established at the Hospital, and which had acquired great celebrity for success, and of his own method, which proved still more successful. He also gives a history of thirty cases in full, with the symptoms from day to day, the mode of treatment, and the result.

But colic seldom exists alone. It is generally accompanied, preceded, or followed by other forms of saturnine malady. We have already stated that the author makes four distinct forms of disease occasioned by lead. Of the first we have spoken. To the second the author, as we have seen, gives the name of arthralgy (pain in the limbs), an affection of a neuralgic character, produced by the introduction of lead into the system, and differing wholly from rheumatism, for which it has been sometimes mistaken. Sauvage calls it metallic rheumatism. Its history is involved in obscurity. Pain in the limbs is mentioned by several writers as accompanying the colic, but they have not described it in detail. Viewing it as symptomatic, or a sort of appendage to the colic, they have given little attention to it. Huxham, Dehaen, Dubois, and Gardane, regard pain in the limbs as precursors of paralysis, thus confounding two distinct diseases, both of which they make concomitants of the colic. The opinions of other writers are quoted, but they had studied the subject so imperfectly, and express themselves so loosely, that we derive little help from them.

Next to colic, arthralgy is the most frequent form in which disease occasioned by lead appears. Des Planches observed seven hundred and fifty-two cases of this form of the disease. The occupations of the individuals were as follows:

Manufacturers of minium,	104
" white lead,	220
" mine orange,	7
Painters of buildings,	163
" carriages,	33
Ornamental painters,	25
Grinders of colors,	43
Manufacturers of glazed and German cards,	7
Potters,	33
Refiners,	14
Plumbers,	10
Platers (in tin and lead),	3
Casters in copper,	1
" of printers' types,	38
Printers,	8
Manufacturers of shot,	6
Lapidaries,	27
Manufactuters of acetate of lead,	2
" nitrate "	2
" chromate "	1
Total,	752

This table shows that laborers in occupations which most frequently produce colic, are also most frequently attacked with arthralgy. There is one remarkable exception, however, to this rule. Laborers in the manufacture of minium are more subject to attack of arthralgy than colic; sixty-three, as the table shows, having been attacked with the latter, and one hundred and four with the former. It is also worthy of note, that out of two hundred and one individuals attacked with simple arthralgy, not accompanied with any other form of lead disease, sixty-three labored in minium. Yet the whole number of laborers in the manufacture of minium in Paris and the environs, does not exceed twenty. It is quite clear then that this substance more readily produces arthralgy than other preparations of lead.

What has been said of seasons, climate, age, sex, constitution, and regimen, in connection with the manifestation of disease in the form of colic, applies equally to its development in the form now under consideration. Of seven hundred and fifty-five attacked with saturnine arthralgy,

	2	were between	5 and	10	years of age,
	52	"	10	20	"
	167	"	20	30	"
	290	"	30	40	"
	163	"	40	50	"
	63	"	50	60	"
	18	"	60	70	"
Total,	755				

The season of the year in which the attack took place is exhibited in the following table:

January,	32	July,	93
February,	45	August,	89
March,	62	September,	63
April,	69	October,	54
May,	74	November,	45
June,	91	December,	38
		Total,	755

The colic, and other forms of saturnine disease, predispose to this, though the violence of the colic has no influence. Observation shows, that a moderate or light form of it is as frequently followed with arthralgic pains, as its severe form. In the 755 cases above referred to, colic preceded in 205, and paralysis in 5; and in 1, the attack commenced on the brain. Usually, it is preceded by numbness and lassitude in the parts about to be invaded by it.

The phenomena which mark the disease, besides pain, are the impaired contractibility, and injury to the corresponding functions, of the parts affected. But pain is its grand characteristic. This varies not less in its nature, intensity, type, extent, and progress, than in the diversity of the parts which may prove the seat of it. It appears in all the limbs, the body, the head; more frequently in some parts than in others; most frequently in the lower limbs, next in frequency in the arms, then in the lumbar region. A circumstance of a singular nature has led some writers to assign the superior limbs as the seat of arthralgic pains. It is true, that lead paralysis most frequently attacks the superior members, and the pain being taken to be an accompaniment of this, has been supposed to have its seat in the same organs. The pain is more frequently seated in the muscles of flexion than in other parts (the reverse being the case in lead paralysis), as in the bottom of the foot, the posterior part of the leg and knee, the anterior part of the arm, the inside of the elbow, forearm, and hand; more frequently in the joints than in other parts of the limbs; rarely in the smaller articulations of the foot and hands.

It may occupy one or more of the parts already indicated, and some others. It sometimes extends along the whole length of the limb, or of the several limbs, but it has not in all parts the same intensity, nor the same character. It is often a sharp, lancinating pain, coming quick, like electric shocks. Sometimes the sensation is like that which would be produced by a burning coal applied to the part. Sometimes the patient complains simply of a prickly sensation, or inconvenient numbness, or a sense of fatigue or oppression.

The pain varies in intensity from a simple, unpleasant sensation to the most exquisite torture, like that of the coursing of boiling fluid through the veins. It seldom continues long in the same degree, but comes and goes at intervals, and is often aggravated or mitigated from moment to moment. When most violent, the individual is in a state of great agitation: his face is shrunken, he cries out and laments, incessantly changes his position, and compresses with his hands, or with bandages, the parts which are the seat of pain, in the hope of finding some alleviation of his sufferings. In a few minutes, perhaps, he is calm again. Various causes exasperate the pain, and its crises have no sort of regularity, but vary from a few minutes to whole hours. As a general rule, it is more severe during the night than during the day. It is often diminished by gentle pressure, or by simple friction, though the opposite effect is sometimes produced. Some local symptoms often appear, as spasms in the muscles, contractions, cramps, or rigidity; sometimes a tremulous movement, more or less distinctly marked, is observed in the parts. Motion in the parts affected often aggravates the pain, yet the patient, as before said, is continually changing his position in the hope of relief.

There is no heat perceptible to the hand of the physician, in the parts affected; no inflammation or swelling, at least, the author witnessed but a single case of it, and that not very marked. Yet all covering is sometimes rejected from the parts which are the seat of pain, and cold is sought as refreshing, though occasionally avoided as exasperating the pain. The patient will sometimes leap out of bed to cool his feet upon the floor, or in some other way endeavor to apply them to cold objects. The pulse is usually soft and regular. The skin, the muscles, and the bone, or the nerves connected with them, may, either of them, or all together, apparently be the seat of pain.

It is an important fact, and a singular one too, that in ordinary cases, arthralgy and paralysis do not occupy the same part. The former usually invades the inferior, the latter the superior limbs; what is more remarkable, the former usually appears in the muscles of flexion, the latter in those of extension. Sometimes, however, they occupy the same limb and the same part of it. Usually arthralgic pains disappear as paralysis developes itself. They occasionally cease suddenly, and paralysis appears in the same limb; but this is rare. Sometimes they commence and proceed together for a while, then one disappears, while the other continues for months, years, or even the whole of life.

Most authors have regarded the pain as a symptom of lead paralysis. Des Planches is fully of opinion that they are forms of disease wholly independent of each other, though they may exist simultaneously in the same individual.

Arthralgy seldom terminates in death, though an affection of the brain may succeed, or may supervene in the midst of it, which is exceedingly dangerous.

Those acquainted with arthralgy occasioned by lead, will very readily distinguish it from rheumatism, and common nervous and other pains, with which it is often confounded. Arthralgy differs from the colic of lead only in the parts in which it is seated, the latter having its seat in the organs of the interior life, the former in those of the exterior, or nerves connected with the external senses. The one is a perfect image of the other. In their causes, an exaltation of the sensibility, and derangement in the contractility and functions of the parts attached, they agree perfectly.

The two forms of diseases have been usually treated in the same way, but they require a treatment somewhat different. In simple arthralgy the sulphur bath is the best remedy, active medicines being added when the case is accompanied with a degree of colic. Five or six ounces of the sulphur of potash is the allowance for a bath at the Hospital of Charity. Other remedies are sometimes used, of which the writer gives a particular account in fourteen cases, the symptoms and treatment of which, from day to day, he subjoins.

(To be Continued in our next Number.)

Art. X.—*Pathological Hæmatology. An Essay on the Blood in Disease.* By G. Andral, Professor of General Pathology and Therapeutics in the University at Paris, etc. etc. Translated from the French by J. F. Meigs, M. D., and Alfred Stillé, M. D. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 129.

Already favorably known as a profound writer on general and pathological anatomy, and upon pathology in its relations to therapeutics, the name of M. Andral comes to us under all the most prepossessing advantages. Objectionable as the medical literature of France is, in some respects, we find in Andral the representative of French medicine in its most philosophical and common sense aspect. Besides, he comes to this difficult inquiry not without much preliminary knowledge, acquired by years of previous devotion to investigations of a kindred nature; as, for instance, those conducted with M. Delafond on the composition of the blood of certain domestic animals, in health and disease, and with M. Gavarret on the modification in the proportion of some of the elements of the blood in diseases.

The table of contents consists of two chapters. The first treats—"Of the best method to pursue in the study of Pathological Hæmatology." The second treats of the blood in diseases: 1. Of the blood in Plethora; 2. Of the blood in Anæmia; 3. Of the blood in Pyrexiæ; 4. Of the blood in Phlegmasiæ; 5. Of the blood in Hemorrhages; 6. Of the blood in Dropsies; 7. Of the blood in certain diseases commonly called organic; and 8. Of the blood in Neuroses.

> "Hæmatology is that branch of the natural sciences the subject of which is the study of the blood. The expression is not a new one in science: about a century since, an author now but little known, Thomas Schwenke, published, under the title of Hæmatology, a treatise as complete as it could then be, upon the blood considered in its state of health and of disease.*
>
> "Before this author, and since his period, many works, some theoretical, some experimental, have been published on the blood; their simple enumeration would be a considerable undertaking, and one not without utility; such, however, is not the end that I seek; but I come to add to all these works, of various importance, a new one, in which I design to make known the alterations that the blood has presented to me in different diseases, under the triple view of its physical properties, and of its chemical and microscopic constitution. I shall endeavor to estimate the importance of these alterations in regard to semeiology and pathogeny; and I shall discuss finally the value of the methods that have been followed at different periods for the purpose of discovering the facts of pathological hæmatology."—P. 13.

The first chapter comprises a retrospective view of all the leading pathological dogmas presented in the history of medicine, which gives the reader a correct idea of the present state of the question under consideration. He commences thus:

> "It was one of the dogmas professed by the school of Cos, that in order to explain the phenomena of health and of disease, we must take equally into consideration the solids which enter into the composition of the human body, the fluids

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* Thomæ Schwenke Hæmatologia, sive sanguinis historia, experimentis passim superstructa, in 8º Hagæcomitum, 1748.

with which it is so abundantly provided, and the forces which control it. But few physicians however remained faithful to these principles, which Hippocrates has declared in several of his works, and particularly in his book on *ancient medicine;* and we find Galen reproaching his contemporaries with some bitterness, for having broken this beautiful ensemble of the ancient Grecian school, in order to interpose in their explanation of disease, some only the solids, others only the fluids, and others again only the forces which pervade the animate organized matter. And thus were determined from those ancient times, the three great points of view, which, now abandoned, and now again adopted, have produced the three systems of solidism, humorism, and vitalism."

This is a maxim, not less important in its application to physiology than to pathology, the full value of which has never been fully appreciated until the present day; and it is upon this broad principle that M. Andral has undertaken the present investigation.

Of all the animal fluids, the blood of course deserves the chief attention; for it is both the receptacle of all the fluids, which go to build up the system, and the source of all those secreted by the various organs. The day has passed by when the pathologist is to be satisfied with the mere inspection, with the naked eye, of the physical properties of the blood and its changes. The microscope is now invoked to determine its molecular structure, and the aid of analytical chemistry with the view to its chemical composition. At the same time, assistance should be derived from physiological experiments, by which we are enabled so to charge the composition of the blood, as to make it resemble the physical properties which it has in certain diseases. It was by such an experiment that M. Magendie demonstrated the agency exercised by the blood, when the amount of its fibrin is diminished, in the production of hemorrhages and of sanguineous congestions. But to appreciate the full force and bearing of these experiments, as regards chemical analysis and the use of the microscope, certain preliminary knowledge is absolutely requisite; as, for instance, a familiar acquaintance with the variations of the blood of the same species of animals in health. It will not do, for example, to judge of the composition of blood from its appearance based on previous knowledge of the blood of some other animal. Even in its normal condition, the blood of one animal has been found to contain twice as much fibrin as that of another; and as regards the red globules, a difference equally great has been observed. Like differences are also observed in the appearance of the diseased blood of different animals; and even some special appearances of the blood, universally regarded as indicative of certain morbid states in man, are found to pertain to the physiological condition of certain animals. Thus the blood drawn from a healthy horse, provided it is received from a large orifice and in a full stream, into a vessel which is neither too flat nor too large, will constantly present the *buffy coat.*

Our present limits will not allow us to enter into a detail of our author's views relative to the condition of the blood in the several diseased states of the system noted above. In the first place, M. Andral points out the modifications in the composition of the blood in *plethora* and in *anœmia,* which, in their less advanced stages, may be regarded as states of the organism not wholly incompatible with health.

As regards a peculiar constitution of the blood in *plethora,* the following is what analysis has taught our author:

"It has shown me in the first place that it is not true that, in plethora, the blood contains very much more fibrine than in any other condition; I have found, in reality, 2.7 of fibrine, as the average of this principle, in thirty-one bleedings performed upon individuals in whom the plethora was fully characterized. Some presented as yet no marked symptoms; in them the bleedings were simple measures of precaution; in the others, were observed vertigo, tinnitus aurium, palpitations of the heart, excessive difficulty of respiration, an injection as though apoplectic of the conjunctivæ of the eyes, and of the face, etc. Thus, in these individuals, the fibrine did not even quite equal the physiological mean. The symptoms of plethora do not depend then, as has often been repeated, upon an augmentation of fibrine in the blood. Consequently, in the point of view of the composition of the blood, plethoric individuals should not be more disposed than others to contract inflammations, and I do not fear to affirm that, if clinical facts be interrogated as to this, they will lead to the same conclusion; it is but a false analogy of symptoms which has caused it to be said that plethora disposed to the phlegmasiæ. The results yielded by the analysis of the blood are found here to be in perfect accordance with those to which clinical observation conducts.

The fibrine does not then sensibly augment in plethora; it remains within the limits of its physiological state, and does not even tend, in the greater number of cases, to mount towards the higher limit of this state.

The organic materials of the serum do not offer either, in plethora, any remarkable change of proportions.

The globules alone remain, and it is effectively the great elevation of their proportion which establishes in the blood the character of plethora; in the 31 bleedings to which I have already referred, I found for the mean of the globules the cipher 141; for minimum, 131; and for maximum, 154.

The blood of plethoric persons then differs from ordinary blood in the greater quantity of globules and the much less quantity of water that it contains.

The physical properties of this blood may be perfectly explained by the nature of the changes that it has undergone in its composition.

Thus, before coagulation, the blood of plethoric people is remarkable for its high coloration, which is in relation with the large proportion of globules it contains.

When we examine it after coagulation, we observe generally that the serum is more or less colored, that the clot is large, voluminous, of moderate firmness, and that it retains a large quantity of serum; we never find any buff upon its surface; at most we may sometimes observe there a thin and transparent pellicle, or some scattered irisations, if the blood has flowed very rapidly from the vein.

The considerable volume of the clot depends manifestly upon the large number of globules, and its softness, as well as the constant absence of the buff, depends upon the small proportion of the fibrine relatively to that of the globules.

The excess of globules in the blood of plethoric people coincides in them with a certain modification of the physiological state, and also with a certain number of pathological facts which seem to be a consequence of it.

Thus, all the functions are usually more active, and there is as it were an exuberance of life; digestion proceeds rapidly; respiration is favored by the great development of the thoracic cavity; the circulation is rapid, the heart beats with force; but it is an error to admit, as has been done, that in such cases, its pulsations may be accompanied by a bellows-sound. I myself not long since put forth this opinion; but a more attentive and a longer observation have convinced me that it is not so, and that consequently, in those cases where a bellows-sound had been heard in the heart or arteries of plethoric patients, it is because the diagnosis had been badly made and because there had been some other disease with the plethora.

While dwelling on all these modifications of functions which coincide with the plethoric condition, I do not wish to repeat here what is everywhere known; it was only necessary for me to speak of them, in order to make evident their coincidence with the fundamental modification that the blood undergoes in that condition, to wit, an augmentation of its globules: however, I will remark besides the peculiar disposition that the brain then presents to become excited, the facility and at the same time the mobility of the emotions, without our observing at the same time those exaggerations or those aberrations of sensibility, and those nervous predominances, which we shall presently find to accompany almost necessarily an opposite state of the blood, to wit, the anormal diminution of its globules.

"The individuals whose blood contains an excess of globules are subject to some peculiar symptoms, of which no one has perhaps up to the present time given a very satisfactory explanation; thus, the vertigo, the dizziness, the tinnitus aurium, the heat of head that they experience, have been accounted for by congestions of blood towards the brain; but these congestions have never been, in like conditions, anatomically proved, and the mere passage of an excessive quantity of globules through the vessels of the brain appears to me a fact sufficient to account for them; but, singular circumstance, if it happens on the contrary that too small a number of globules traverse these same vessels, analogous symptoms will still present themselves, so that a quantity of globules either too high or too low disturbs in the same way certain cerebral acts.

"An excess of globules in the blood coincides also with the more frequent and more ready appearance of certain hemorrhages; I shall endeavor further on to give an explanation of this.

"Finally, in these cases of excess of the globules, it is not uncommon to see arise by intervals, a general increase of excitability of the organism, carried to such a point that a true fever may be the consequence. Vainly should we seek, in order to account for this, any alteration of the solids; they do not present any, and the fever ought then to be considered as having its point of departure in some state of the blood. But, let us take another case: suppose that coincidently with some inflammatory alteration of a solid, developed in an individual whose blood contains too many globules, there arises fever; this will then present a physiognomy altogether peculiar; it will be remarkable by the symptoms of high reaction which shall accompany it; it will present that type of fever called by Pinel angeiotenic; and this type will depend less upon the seat and nature of the local lesion, than on the condition of the blood itself. Venesection will certainly modify it, by acting on the blood, whose globules it will infallibly diminish; but though evidently useful in this point of view, it will have a much less direct influence on the inflammatory alteration which has produced the fever; for this alteration is connected with another modification of the blood, upon which bleeding has much less direct and immediate influence, as we shall see further on.

"The phenomena of plethora, viewed in connection with the composition of the blood in this condition, may enlighten us on the part played by the globules of the blood in the organism."—Pp. 40–3.

The blood in *anæmia*, contrary to the excess of its globular element in *plethora*, is precisely the very reverse, that is, the amount of its globules falls much below the physiological mean; and sometimes it diminishes to a proportion so low that it is difficult to understand how life can still be maintained.

"This diminution, in different degrees, of the globular elements of the blood is the fundamental character of anæmia, a condition which, therefore, in regard to the composition of the sanguine fluid, as well as in relation to its symptoms, is the opposite to plethora. According to the degree of the diminution of the globules, this condition is still compatible with a certain amount of health, or it becomes by itself a true morbid state, which may exist alone, or intervene as complication in all diseases. Thus, then, independent of the solids, we find one of the principles of the blood becoming distinct from all the others, exercising, sometimes by its augmentation, and sometimes by its spontaneous diminution, an influence such as to become the point of departure and the sole appreciable material element of a considerable number of diseases.

"I have found, as the average of the proportion of the globules, in 16 cases of commencing anæmia, the cipher 109, and in 24 cases of confirmed anæmia, the cipher 65. I have constructed these averages only from cases of spontaneous anæmia occurring in the human race; I should have found a lower average in the sheep kind, which are also exposed to become anæmic, and which, in this condition, may have a blood so deficient in globules, that I have seen one of them which had but 15 of those corpuscles (see Memoir, etc.), whilst in the human race, the lowest proportion of globules that I have ever met with in spontaneous anæmia is 28. It is true that man possesses normally in his blood more of the globules than does the sheep species; whence it follows that, proportionally to the physiological condition, the minimum 28 of globules, found in the spontaneous anæmia of man, is very nearly equal to the minimum 15 found in anæmic sheep.

"Besides, it is necessary to distinguish several kinds of anæmia, according to the modifications of composition that they produce in the blood.

"In spontaneous anæmia, whether strongly marked or not, the globules alone are diminished: the fibrine and the solid matter of the serum have preserved their proportions; thus, in 16 cases of slight anæmia, I have found, as the average of fibrine, the cipher 3.0; and in 24 cases of affirmed anæmia the cipher 3.3.*

"In the anæmia which follows, more or less, abundant losses of blood, it may equally happen that we shall find the globules alone diminished; that is, indeed, the first effect of every hemorrhage; but if this augments or is renewed, there soon arrives a moment when the blood comes to lose equally its other principles, and we see the albumen and the fibrine of the serum diminish with the globules. It is in this way that in a woman who had suffered from very abundant attacks of metorrhagia, the blood contained only 21 in globules, 1.8 in fibrine, and 61 of solid matter of the serum. The water had risen to the enormous proportion of 915.

"Anæmia may also be the result of certain appreciable modifications of the organism which exercise an influence on the blood. In this case, the composition of that fluid appears to be the same as in spontaneous anæmia, that is to say, the globules alone are diminished, while the fibrine and albumen of the serum remain the same. This is what occurs in many pregnant women, whose blood loses its globules without losing its fibrine. The average of the globules is the same in them as we have found it in cases of slight anæmia.

"Why is it that woman is more exposed than man to this singular alteration of the blood in virtue of which, without any evident cause, the globules of this fluid are thus diminished in so strong a proportion? Why is she particularly exposed to it at a certain epoch of her life?

"Yet men also are sometimes attacked with spontaneous anæmia; they present in such a case all the symptoms which characterize the chlorosis of the female, and I have proved that their blood then suffers the same alteration of composition; it is with them equally the globules alone which diminish; the fibrine and the solid matter of the serum remain the same. I have met with examples of this spontaneous diminution of the globules both in men still young, and in others aged from forty to sixty years."—Pp. 44–5–6.

We would heartily commend this treatise to the attention of our readers, satisfied that its careful perusal would be rewarded with a rich return in sound practical knowledge.

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* The state of the blood of animals shows perfectly to what point the fibrine and the globules may remain isolated in their decrease or diminution; thus, the dog, whose blood contains much less fibrine than that of man and of all other animals that I have examined, is precisely the animal whose blood is most rich in globules. On the contrary, the horse, the sheep, the ox, whose blood contains more fibrine than that of man, and especially than that of the dog, have in their blood much less of globules than the two other beings.—(See the *Memoire sur la composition du sang de quelques animaux domestiques, etc.*) Besides, in the same species, those individuals who possess in their blood the most globules are not those whose proportion of fibrine necessarily rises highest, and *vice versâ.*

ART. XI.—*Lectures on the Theory and Practice of Midwifery.* Delivered in the Theatre of St. George's Hospital. By ROBERT LEE, M.D., F.R.S., etc. Illustrated with numerous wood Engravings. Philad.: Ed. Barrington & Geo. D. Haswell. 1844. 8vo., pp. 540.

A Practical Treatise on Midwifery, exhibiting the present Advanced State of the Science. By F. G. MOREAU, Professor of Midwifery and the Diseases of Women and Children in the Faculty of Medicine at Paris, etc., etc. Translated from the French, by THOMAS FORREST BETTON, M.D., and edited by PAUL B. GODDARD, A.M., M.D., *Lecturer on Anatomy, etc.* With eighty plates, comprising numerous separate Illustrations. Philadelphia: Carey & Hart. 1844. 4to., pp. 235.

Report on the Progress of Practical Medicine in the Department of Midwifery and the Diseases of Women and Children, during the years 1842–3. By CHARLES WEST, M.D., &c. London. 1844. 8vo., pp. 38.

IT strikes us that the number of works on midwifery published, in this country, within the last few years, is out of proportion with all the other medical departments. In addition to the standard volumes of Ramsbotham, Chailly, Churchill, and others, we have here two new volumes, with a pamphlet, all of the first order of excellence.

The lectures of Dr. Lee are of that practical character which so strongly recommends a medical treatise to the young practitioner. With the strictly philosophical view of the various branches of the subject on which he treats necessary in all professional works, there is combined a practical minuteness in the minor matters of importance relating to parturition, which can only be the result of great experience in the lying-in room; while a proper estimate is placed upon that species which appears to be merely a matter of scientific curiosity. Vide p. 216, 217, et passim. The lectures upon the use of instruments we would especially recommend to the study of those who wish to become skilful in their use, and who, at the same time, are desirous to possess themselves fully of the principles on which instruments are to be employed.

Moreau's treatise is another valuable work upon the science of midwifery, with eighty of the most splendid lithographic plates that we have ever seen. These illustrations are engraved with so much beauty and accuracy, and upon so large a scale, that they cannot fail to present to the eye the precise relation of the fœtus and of the parts engaged in labor, under every condition and circumstance, from the commencement of the state of natural parturition, to the most difficult and complicated labor. The profession are greatly indebted to French industry in pathological and special anatomy for the continued advance in the science of obstetrics; and the work before us may be regarded as the completion of all that has accumulated in this department of medical science, greatly enhanced in value by many valuable original suggestions, to the proper arrangement of which the author has devoted a great amount of labor. The translation is faithfully and elegantly done, and the work will be a valuable addition to the medical literature of our country.

The last, Dr. West's Report, is a reprint of a valuable and elaborate paper which appeared in the thirty-fourth number of the British and Foreign Medical Review. It presents us with a brief analytical notice of the principal publications on the subjects to which it is devoted which appeared between October 1st, 1842, and December 1st, 1843. A comprehensive digest of the various medical publications with which the press teems is becoming more and more necessary to those of the profession whose time is to a great extent engrossed by the details of practice, and who yet desire to keep themselves *au courant* with professional literature. Such a digest Dr. West's paper affords. He has evidently spared no pains to make it complete ; and, at the same time, his knowledge of the various subjects discussed, is sufficient to enable him to appreciate the value of the various contributions to the science, to decide what are new and what old, and to refer to the various sources of information by which the statements of the different authors may be confirmed or corrected. It is altogether a very useful and creditable paper.

Our limits, on the present occasion, will not allow us to say more. We commend these three works heartily to our professional brethren.

Art. XII.—*A Treatise on the Nature, Causes, and Treatment of Erysipelas.* By Thomas Nunneley, Lecturer on Anatomy, Physiology, and Pathology, in the Leeds School of Medicine, etc., etc. Philadelphia : Ed. Barrington & Geo. D. Haswell. 1844. 8vo. pp. 235.

This is another reprint in the *Select Medical Library*, edited by John Bell, M.D. On a previous occasion, we drew attention to the singularly happy exercise of judgment displayed, at all times, by this learned brother in his selections of works for the profession on this side of the Atlantic ; and this opinion has, in the interim, been still more decidedly confirmed. So judicious has Dr. B. been in all these decisions, that we are warranted in saying, from no little knowledge on the subject, that the simple fact, that a volume has appeared in his "Library," secures it a character for excellence, which could not be more than attained by a simultaneous review in its favor by all the medical journals in the country.

For more than a year past, the various medical journals scattered throughout our vast domain, have been teeming with accounts of epidemic erysipelas, under the name of Black Tongue, etc., which has prevailed in various portions of New England and of our Western region, assuming sometimes a highly malignant form. The present appearance of this treatise, describing the disease in all its varieties, and giving the best modes of treatment, is consequently opportune in the highest degree. As these accounts have been judiciously incorporated into the American Edition, the monograph is thus rendered doubly acceptable to the profession here, in consequence of its completeness and adaptation to our present wants.

> "Additional matter on the subject of Epidemic Erysipelas, as this disease has recently shown itself in New England and in the State of Indiana, is introduced into this first American edition of Dr. Nunneley's Treatise. The facts thus revealed will be found to be important, in relation to the connection between erysipelatous inflammation of the skin and that of the serous and mucous membranes, and, also, between erysipelas and puerperal peritonitis."

As regards the meaning attached by our author to the word, *Erysipelas*, the following extract from the preface will serve to show it in a general way:

"Throughout the following pages, to the word Erysipelas a more extended signification is attached than frequently is assigned to it. Instead of being restricted to an affection of the skin alone, or even of the skin and subcutaneous cellular membrane, it is rather used as a divisional term, comprising several species. By some, this may be thought too vague and indefinite; perhaps it may be so, but the Author hopes that his meaning will be sufficiently apparent; and as he is by no means wedded to the expression thus employed, or thinks it faultless, when a better is suggested he will be happy to adopt it. No one can be more impressed than himself with the propriety and advantage of accurately defining terms, and constantly using them as defined; this being observed, the exact signification attached to a word is not likely to give rise to confusion and obscurity. What he wishes is, to show that many complaints which have received distinct names, and the effects of which are principally manifested in different tissues, are, in reality, of the same nature, and consequently are but modifications of each other. The word phlegmon has for long been generally employed as applicable to inflammations of various textures; and, in the same manner, the word erysipelas is now employed, as indicating a contrary condition or type, from phlegmon. If the term phlegmonous inflammation be allowed, he sees no reason why that of erysipelatous should not also be permitted. Indeed, it has already, by more than one writer, been so employed."

He thus uses the term, *Erysipelas*, in an enlarged generic sense, under which he thinks the following diseases may be naturally grouped:

"I.—*Erythema*, with its various species according to the classifications of Willan, Bateman, and Rayer; except the erythema intertrigo, fret, or erosion of the skin, which certainly has no relation to the other species of erythema. It is purely a local affection, produced solely by local irritants, wholly unconnected with constitutional symptoms, and not requiring constitutional remedies. It is also doubtful if erythema nodosum should be included: the local affection appears to be inflammation of the periosteum, the skin being only secondarily involved. How far the constitutional tendency and symptoms may approach to those attending erysipeloid affections is not quite certain.

"II.—*Erysipelas*; in the forms commonly described under the term, whether of the head and face, trunk or extremities, idiopathic or sympathetic.

"III.—*Diffuse inflammation of the cellular membrane*; as the term is used by Dr. Duncan, Jun.,* who first most distinctly called attention to this form of complaint.

"IV—*Puerperal Fever.*

"V.—*Diffuse inflammation of the serous membranes*; which is perhaps more frequently seen in the peritoneum; especially after wounds of it or in its neighborhood, as after the operation for strangulated hernia or stone.

"VI.—*Diffuse inflammation of the mucous membranes*; this form is more frequently seen about the fauces, as in some forms of angina pharyngea vel laryngea.

"VII.—Very possibly some forms of *Arachnitis* belong to this class.

"VIII.—*Diffuse Phlebitis*, and also this form of inflammation of the *Absorbents.*

"In a work like the present, professing principally to treat of erysipelas, as the term is popularly understood, it would evidently be improper, as well as unnecessary, to enter into a detail of the various symptoms of these disorders; they must be sought for in the different works devoted to them, and under the respective words in the admirable Cyclopædias and Dictionaries lately published. All that is necessary on the present occasion is to prove their identity. If it can be shown that the causes which produce them are the same; that by one form of affection another may be induced; that two or more forms of the complaint exist together, not only as epidemics, but at the same time, or in some instances, interchangeably in the same individual; that some of them run so much one into another, that those who are most anxious to separate them are unable to do so; that the constitutional symptoms are for the most part the same; that allowing for the variety in the organization and functions of the different textures, the local changes are the same; and that one general plan of treatment is adapted for all: it may, I think, be fairly assumed as proved, that the affections are identical in their nature; at least, according to all rules of philosophy, which forbid us to admit separations and distinctions where phenomena are the same."

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* Edinburgh Med. Chirg. Trans., vol.

But the details under these several heads afford much curious and instructive information, especially as regards puerperal fever. Upon this subject, we have already given some exceedingly interesting facts in our analysis of the last Registration of England; and as the facts observed in this country are precisely of the same character, the deductions made in both countries, find the strongest confirmation. Among the additional matter supplied to the volume by Dr. Bell, we find the following remarks:

"*Connection with Puerperal Peritonitis.*—In connection with the foregoing remarks, it may not be amiss to present a very brief view of that class of cases to which this statement would seem to allude—*puerperal peritonitis;* not that this disease can with propriety be called erysipelas, but that its fatality is in some manner connected with the prevailing epidemic. It has long been a mooted question, whether puerperal fever was communicated by contagion or by some other agent. Many, at the present time, deny the possibility of contagious communication, while others in our own section have refrained from obstetrical practice, convinced that they have carried the disease from one patient to another. Certain it is, that while many highly respectable gentlemen, extensively engaged in practice, deny the contagiousness of either erysipelas or puerperal peritonitis, others, among whom is Dr. Calvin Jewett, admit its contagious character. The latter remarks:—'I do not believe the disease (erysipelas) contagious like small-pox or measles, it approaches more nearly epidemic typhus. I speak of the disease generally, not of puerperal cases, for these are unquestionably communicated by individuals, whether physician or nurse, who have been much with the disease, to women, at or immediately after childbirth. I believe the clothing, not the hand of the physician, communicates the disease. *I wish I were mistaken on this point.*'

"If contagion does not contribute to the production of this malady, the question forcibly suggests itself, how it happens that the *proportion* of puerperal cases is sensibly increased during the epidemic prevalence of erysipelas? With ordinary care, perfect seclusion, and guarded from the influence of infectious causes, the patient might have some hope of escape, if the disease was communicated by the usual agents of infectious diseases. But not so; entire seclusion and even living out of the circle of infected atmosphere, is no safeguard, if during labor, the patient is attended by a physician, who is engaged in daily practice among individuals affected with erysipelas or puerperal peritonitis. Some cases corroborative of this statement will be given, before we leave this subject.'"

The capability of the communication of puerperal peritonitis on the part of the physician and nurse, is unfortunately a fact too clearly established to admit of a doubt. In 1842–3, erysipelatous fever, of an epidemic character, prevailed in the northern sections of Vermont and New Hampshire, described by Dr. Charles Hall, of Burlington, Vt., and George J. Dexter, of Lancaster, N. H., in a joint paper communicated to the *Amer. Jour. Med. Sciences*, and by Dr. J. A. Allen in the *Boston Med. and Surg. Journal* (Nos. 2, 4, 7, 1844). In the Western Lancet, Nov. 1843, is contained a paper by George Sutton, M. D., entitled "Remarks on an Epidemic Erysipelas, known by the popular name of '*Black Tongue*,' which recently prevailed in Ripley and Dearborn Counties, Ia.," where it commenced in November, 1842.

Did our space allow, it would be both interesting and profitable to enter into a full analysis of this work; but we would advise our readers, one and all, to purchase it, and thus judge of its value from a personal examination of its pages.

It is certainly a curious fact that mere prickings of the finger, in dissections of bodies affected with this epidemic erysipelas, should be followed by fatal disease. One physician in Vermont, and two in Massachusetts, thus sacrificed their lives.

The reader will be enabled, from this hasty sketch, to form some idea of the value of this treatise, which we regard as particularly deserving of patronage. Besides, it merits commendation on the score of its external features of paper and type.

Art. XIII.—*Eleventh Annual Report of the Trustees of the State Lunatic Hospital at Worcester.* December, 1843. 8vo. pp. 110.

Abstract of the Returns from the several Towns, Jails, and Houses of Correction, in this Commonwealth [*Massachusetts*], *concerning the Condition of Pauper Idiots and Lunatics, in Alms-Houses, Jails, &c., for the year ending January*, 1843. 8vo. pp. 84.

First Annual Report of the Secretary of the Commonwealth to the Legislature: Under the Act of March, 1842, *relating to the Registry and Returns of Births, Marriages, and Deaths in Massachusetts.* February, 1843. 8vo. pp. 120.

Second Annual Report of the same, for the year ending May 1*st*, 1843. 8vo. pp. 88.

Address to the Members of the Massachusetts Medical Society upon the Question of engaging in a Series of Statistical and other Investigations, which would be advantageous to Medical Science and Public Hygiène. 8vo. pp. 16.

The Common School Journal for July 1, 1844. Boston.

Reference has already been made, in our last No., in a notice of the Fifth Registration of England, of the commendable position taken by the good old Bay State in the investigation of such medical questions, as will serve to ameliorate the condition of the lower classes, at the same time that light will be thrown upon many of the most interesting questions in political economy. That this is right and becoming on the part of this ancient Commonwealth, in consideration of her prominent intellectual position in our confederacy, does not admit of a single doubt. Indeed, it may justly be regarded as an imperative duty, demanded from her relative position, to lead and direct in such public measures as make an appeal to man's higher nature; nor has she failed to respond in the proper spirit, as appears from the array of measures now under prosecution, as shown at the head of this article.

It was our good fortune to be present, at Boston, at the last annual meeting of the State Medical Society, in the latter part of May, when we participated in the pleasures of their annual dinner with some 400 of these Fellows; and we may add, without the suspicion of being disposed to flatter, that, taken in the aggregate, physically, intellectually, and morally, they would compare, so far as outward signs are indicative of the inward man, with any similar body of men it has ever fallen to our lot to survey.

It is not our intention to enter into the special merits of each of the Reports which head this article; but our object in throwing them under the same head, is, to direct the attention of the profession throughout our land to the noble example set by the State of Massachusetts—an example worthy of emulation by her sister States. Our present limits will not allow of more than the most general notice of these highly interesting papers; but as we have treasured up their results in the more permanent form of a volume, that we purpose very soon laying before the public, no opportunity will be wanting hereafter to induce us to resume what is, with us, a favorite topic.

In regard to the State Lunatic Hospital, the Trustees report:

> "The experience of the past year has added new and most convincing proof of the enlightened wisdom and humanity which has established and supported this institution, and which has here erected the noblest monument of the public charities of Massachusetts.
>
> "In addition to the liberality of the State, and the assistance and encouragement of benevolent men, this asylum has enjoyed, in an eminent degree, the smiles and guardianship of that kind Providence without whose blessing the best directed efforts of the wisest mortals are unavailing. From the laying of the foundation stone to this day, Heaven seems to have directed the undertaking, and to have crowned with its mercies the entire work. Not to see it, we should be blind: not to acknowledge it, we should be most ungrateful.
>
> "Accompanying this are the Reports of the Superintendent and Treasurer. They contain the most full, accurate and satisfactory statements of the policy and condition of the hospital, and the receipts and expenses of the treasury.
>
> "The monthly visits, required by law, have been made principally by the members of the Board who reside in Worcester, and a very large portion of our labors and cares have devolved upon them—labors and cares which would have been too onerous, had they not been lightened and made cheerful and pleasant by the quiet, order, neatness and good management, which have uniformly pervaded the whole establishment.
>
> "Eleven years have passed since this hospital was opened for the reception of patients; in that time there have been received one thousand seven hundred and seventy-seven patients.

Committed by the Courts, ...	1311
" by Overseers of the Poor and friends . . .	466
The number of Discharges is	1522
" " " Recoveries is	792
During the last year there have been in the hospital, different patients, ...	458
At the commencement of the year, ...	238
Admitted during the year, ...	220
Now remaining, ...	255
Recovered, ...	116
Died, ...	22

Discharged improved, ...	32
Discharged as harmless and incurable, ...	24
Sent to house of Correction, for want of room, by Trustees, .	2
Discharged by the Courts, as incurable and dangerous, .	6
Discharged by Trustees' Private Board, incurable, for want of room, ...	1
Average number of patients in the hospital for the year, .	244 1-6

> "Of those who have recovered, eighty-four were cases of less duration than one year, and thirty-two of longer duration.
>
> "Application has been made for one hundred and fifty-seven who were not received at the time, and for ninety-eight who have not been received at any time, for want of room.
>
> "The expenses of the hospital have been $27,914 12, more by $367 25 than in 1842; and the average number of patients has been greater, in about the same proportion.
>
> "The books of the State treasury show that the Commonwealth has maintained, in other hospitals, one hundred and six State paupers during the past year, at an expense of $9511 42. There have been here during the same time, fifty-three State paupers, for the board of whom nothing is paid. If the State should allow this hospital one hundred dollars per annum, for the board of its patients, a great saving would be made in the price of the board of all other patients, and no annual appropriation from the public treasury would be necessary. The amount that the hospital would have received from the State for State paupers the past year, at the rate paid by towns, is about four thousand dollars."—Pp. 3, 4, 5.

> "The Hospital has now been open nearly *eleven* years. It has received 1777 patients, discharged 1522, of whom 792 have recovered and 136 have died; the remainder, 594, have been discharged in various conditions, some in a state of convalescence, some greatly improved, others less improved, and many harmless and incurable, or dangerous and incurable, who were sent away for want of room. 255 patients remain, who exhibit all the different forms of disease, from curable insanity to hopeless idiocy."—P. 29.

> "No State in the Union has made such ample provision for its insane as Massachusetts, having had 458 in its State Hospital, 271 in the McLean Asylum, and 157 in the Boston Lunatic Asylum,—in all 886; and buildings are now being erected for at least 150 more, which will give room for 1036."—P. 32.

The superintendent of this institution is Dr. Samuel B. Woodward—a name inseparably associated with the history of Lunatic asylums in this country, and one also identified with the history of the amelioration of the condition of the insane, characteristic of the present age. Read the following language of the Trustees, who say that they—

> "Would leave unperformed the most grateful part of their duty, if they omitted to record their most full and decided testimony to the zeal, fidelity and assiduous devotion of the Superintendent. His master spirit has pervaded the whole establishment, and he seems to have impressed on all laws of kindness and love. By his gentleness and courtesy, no less than by his skill and energy, has he given a tone and character to his hospital which have made it a model and a praise in our own and in foreign lands. Into how many wounded hearts has he poured the healing balm; to how many anxious and sorrowing bosoms has he brought consolation and peace? In this world such public benefactors have an ample reward, in the gratitude of those they have blessed; in the coming world, where there are no disturbed fancies and no clouded vision, they shall have fulness of joy and pleasures for ever more."—P. 10.

The favorable change in the whole treatment of this unfortunate class of the human family, just adverted to above, is a feature in their history that belongs, in fact, to the present generation. What is there, in truth, at which the heart of the philanthropist has more cause for rejoicing, than at this improved condition, especially in the United States? Instead of the dungeon and chains and stripes, we find now everywhere free exercise in the open air substituted, in connection with the judicious alternation of bodily labor, amusement, and even literary occupation; and thus, as moral restraint has taken the place of physical, so we find, instead of the irritation and exasperation of feelings excited by the latter, the most happy results as evinced in the soothing effects produced by care and kindness.

Dr. Woodward tells us of the parties held twice a month by the Matron, in a large hall, " at which times from 75 to 100 females assemble, and unite in labor, and enjoy social intercourse." The work done at these parties is for the advantage of the institution; and many beautiful articles are here manufactured, and kept for sale to increase the library.

> "In the same hall we now hold our dancing parties, twice a month. These parties have never before been so well conducted, or afforded so much real enjoyment. From 75 to 100 individuals, of both sexes, assemble here to spend a few hours socially, to enjoy a season of relaxation from the tedium of confinement, to dance, and to witness the amusement, which seems to be as much enjoyed by the spectators as by those who partake of the sport of the evening. These parties are always conducted by the assistant physician, and the utmost order and decorum prevail at them as well as at those under the supervision of the matron.
>
> "Every Saturday evening a religious meeting is held in this hall, which continues one hour. The meeting is conducted by the chaplain, who explains, in a familiar way, some portion of scripture; prayers are offered, and sacred music increases the interest of the season."—Pp. 78, 80.
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> * * * * * * * * *
>
> "The intercourse of the sexes in institutions of this kind is as favorable as elsewhere. The influence they have upon each other everywhere else, in schools, churches, and the social circle, when judiciously admitted, is equally favorable here. I would increase rather than diminish it, and in the hospital would encourage walks, games, and especially dances, in which the intelligent and convalescent patients should be brought together, under the guidance of their attendants, and hold free and pleasant intercourse. Especially would I have them assemble together for religious worship on the Sabbath, at singing parties, and other seasons of social enjoyment.
>
> "The influence of the sexes is reciprocal everywhere, and, when properly directed, has a favorable effect on both."—P. 80.

As regards the influence of labor and religious exercises upon the insane, Dr. W.'s experience, from year to year, increases his estimation of their value. For the purpose of labor, the garden and the farm present ample opportunities.

> "The laborers are the happiest and most healthy class of patients in the hospital; many convalescents would be completely miserable without labor, and their recovery would be retarded, if not prevented, if they were deprived of it.
>
> "When the excitement of a violent patient has so far subsided as to enable him, with great effort, to exercise self-control, he then calls for labor, and will expend the excitement in this way, advantageously to himself and the institution, which without it he would find it necessary to expend in noise,

violence, and mischief. This holds equally true with both sexes. Labor under such circumstances is not only a safety valve to expend diseased excitement, but it puts the patient into accustomed channels of thought and action, and the mind performs rationally at labor, if insane everywhere else.

"Convalescents are not the only persons benefited by useful employment; a large class of the incurable insane are rendered healthy and happy by it. What there is of mind remaining is kept bright, and prevented from sinking into dementia by labor. No persons about the hospital are more gratified to witness production, profit and improvement, than the laboring insane. They take delight in viewing the luxuriant crops in the fields and gardens, and feeling that they have contributed their share to what goes for the general good.

"The melancholy patients are benefited no less than the maniacal, by labor. They need the exercise, and particularly require the mind to be diverted from gloomy contemplations, and to be made active in some way that will interest and excite them."—Pp. 81, 82.

The library is also a source not only of amusement but of occupation. But it is in the Vermont asylum that the literary spirit has been carried even to the *cacoëthes scribendi;* for, not content with the enjoyment of being merely readers, they actually publish a small newspaper, called the "Asylum Journal." As they thus receive in exchange more than two hundred newspapers, besides many other periodicals, the superintendent is enabled to furnish every patient with a newspaper from his own immediate neighborhood, at the same time that every politician has one of his own political views, and every sectarian, one adapted to his own religious sentiments.

Our present limits will not allow us to enter upon the remaining subjects indicated by the titles of the works which head this article. Should we succeed in attracting the attention of other States to these important objects of medical inquiry, we shall have accomplished our greatest aim. Let other States follow the noble example of Massachusetts, and we shall soon realize the grand desideratum of a NATIONAL *Registration of Births, Deaths, and Marriages, with the specified cause of death.*

But we must say a word, in conclusion, relative to the statistical project now in operation, under the auspices of the members of the Massachusetts Medical Society, as regards the development of the hygiènic conditions of the different classes composing the population of that State. From the Address cited at the head of this article, of which Dr. John D. Fisher was chairman, we make the following extract:

"There is reason to believe that there is a great difference in the value of life in the different conditions of society. The Report of the Poor Law Commissioners upon the sanitary condition of the laboring classes of England and Wales, shows, that while the families of gentlemen, merchants and professional men, average a life, in different places, of from 35 to 50 years; laborers, operatives, mechanics, servants, and others similarly situated, also their wives and children, averaged a life of only 15 to 35 years in various places. This difference of the value of life is not confined to England and Wales—we have obtained an analysis of the ages, and also of the domestic and social condition of 1767 persons, who have died in Dorchester within the last 27 years. By this it appears that the average duration of life in the families (including father, mother, and children) of laborers,

fishermen, journeymen mechanics and factory operatives, was	27 yrs.	5 mos.
Mechanics who carry on business on their own account, .	29 "	6 "
Merchants, capitalists, professional and salary men, amateur farmers, ...	33 "	2 "
Farmers who own and cultivate their lands, ...	45 "	8 "

“ This difference is not chargeable to the occupations merely, for it was found the most among the little children at their homes, as will be seen in the following table.

PERIODS OF LIFE AT WHICH DEATH TOOK PLACE.	NUMBER OF PERSONS DYING IN THE FAMILIES OF				
	Laborers, &c.	Mechanics.	Merch'ts, &c.	Farmers.	Total.
Under 2 years, . .	161	115	127	33	436
“ 5 “ . .	203	148	172	50	573
“ 20 “ . .	244	191	235	63	733
“ 70 “ . .	462	351	499	191	1503
Over 70 “ . .	51	50	90	73	264

PROPORTION OF DEATHS AT EACH PERIOD TO ONE THOUSAND IN EACH CLASS.

PERIODS.	Laborers, &c.	Mechanics.	Merch'ts, &c.	Farmers.	Total.
Under 2 years, . .	313	286	215	124	246
“ 5 “ . .	395	368	292	188	324
“ 20 “ . .	474	476	398	237	410
“ 70 “ . .	901	875	847	735	850
Over 70 “ . .	99	124	152	274	149

“ The great difference of mortality between the children of the poor and of the comfortable farmer, cannot be caused by the employment of the head of the family. There must be a cause or causes connected with the domestic condition or management to produce this discrepancy. But it is yet a question to be resolved by further and wider observation, whether this, although a general fact in England and Wales, is here more than a particular fact in regard to Dorchester. A similar analysis must therefore be obtained of the mortality of many towns in all parts of the Sate, in order to determine whether life is meted out in such various proportions to the different classes of society throughout the Commonwealth.”

The whole subject is now in the hands of a committee, not only every way competent for the investigation of this most important inquiry, but, what is more to the point, ardent in its prosecution. This committee consists of Drs. John D. Fisher, Edward Jarvis, and O. W. Holmes.

The law of the registration of births, deaths, and marriages in Massachusetts, which has now been in operation two years, of which we have the published results, has not been attended with those important consequences which may have been anticipated. This, however, was the case equally in England, during the first and second years of their present admirable system of Registration; but Massachusetts, as has been abundantly illustrated in the third, fourth, and fifth annual reports of England, has now arrived at the point when the most important results may be realized.

We are glad to learn from the No. of the “Common School Journal,” quoted at the head of this article, that the duty of collecting the births in every town and city has, by a late law of the State, been assigned to the school committee. This new registration law, as the acquisition of all the attending facts required by the registration, is thus made comparatively easy, we look upon as highly important. It reads as follows :

"*Be it enacted by the Senate and House of Representatives, in General Court assembled, and by the authority of the same, as follows :*

"SECT. 1. The clerks of the several cities and towns in this Commonwealth shall, annually, in the month of June, transmit to the secretary of the Commonwealth a certified copy of their record of the births, marriages, and deaths, which have occurred within their respective cities and towns during the year next preceding the first day of said month.

"The births shall be numbered and recorded in the order in which they are received by the clerk. The record of births shall state in separate columns the date of the birth, the place of birth, the name of the child (if it have any), the sex of the child, name and surname of one or both of the parents, occupation of the father, residence of the parents, and the time when the record was made.

"The marriages shall be numbered and recorded in the order in which they are received by the clerk. The record of marriages shall state in separate columns the date of the marriage, the place of the marriage, the name, residence, and official station of the person by whom married, the names and surnames of the parties, the residence of each, the age of each, the condition of each (whether single or widowed), the occupation, names of the parents, and the time when the record was made.

"The deaths shall be numbered and recorded in the order in which they are received by the clerk. The record of deaths shall state in separate columns the date of the death, the name and surname of the deceased, the sex, condition (whether single or married), age, occupation, place of death, place of birth, names of the parents, disease or causes of death, and the time when the record was made.

"SECT. 2. The school committee of each city or town shall, annually, in the month of May, ascertain from actual inquiry or otherwise, all the births which have happened within such city or town, during the year next preceding the first day of said May, together with the facts concerning births required by the first section of this act, and shall make an accurate return thereof to the clerk of such city or town, on or before the last day of said May ; and the said school committee, or other person authorized by them to make such returns, shall be entitled to receive from the treasury of such city or town, five cents for each and every birth so returned.

"SECT. 3. Every justice, minister, and clerk, or keeper of the records of the meeting wherein any marriages among the Friends or Quakers shall be solemnized, shall make a record of each marriage solemnized before him, together with all the facts relating to marriages required by the first section of this act ; and each such justice, minister, clerk or keeper shall, between the first and tenth days of each month, return a copy of the record for the month next preceding, to the clerk of the city or town in which the marriage was solemnized ; and every person, as aforesaid, who shall neglect to make the returns required by this section, shall be liable to the penalty provided in the eighteenth section of the seventy-fifth chapter of the Revised Statutes.

"SECT. 4. Each sexton or other person, having the charge of any burial ground in this Commonwealth, shall, on or before the tenth day of each month, make returns of all the facts required by the first section of this act, connected with the death of any person whose burial he may have superintended during the month next preceding, to the clerk of the city or town in which such deceased person resided at the time of his death. And such sexton, or other person, shall be entitled to receive from the treasury of the city or town to which the return is made, five cents for the return of each death made agreeably to the provisions of this act.

"SECT. 5. The clerk of each city or town shall be entitled to receive from the treasury of such city or town, eight cents for the record of each birth and death : *provided* such clerk shall comply with this act in all respects.

"SECT. 6. It shall be the duty of the clerks of the several cities and towns, to make such distribution of blank forms of returns as shall be designated by the secretary of the Commonwealth.

"SECT. 7. The secretary of the Commonwealth shall prepare and furnish to the clerks of the several cities and towns in this Commonwealth, blank books of suitable quality and size, to be used as books of record, according to the provisions of this act, and also blank forms of returns, as herein before specified, and shall accompany the same with such instructions and explanations as may be necessary and useful; and he shall receive said returns, and prepare therefrom such tabular results, as will render them of practical utility, and shall make report thereof annually to the Legislature, and generally shall do whatsoever may be required to carry into effect the provisions of this act.

"SECT. 8. Any clerk who shall neglect to comply with the requirements of this act, shall be liable to a penalty of ten dollars, to be recovered for the use of any city or town where such neglect shall be proved to have existed.

"SECT. 9. An act entitled "an act relating to the registry of births, marriages, and deaths," passed on the third day of March, in the year one thousand eight hundred and forty-two, is hereby repealed.

"SECT. 10. This act shall take effect from and after its passage. [*Approved by the Governor, March* 16, 1844.]"

We would here make an appeal, in conclusion, to our own State—the noble State of New York—which is ever foremost in all great projects relative to man's advancement. Urged on by the noble example of her sister State, can she, for a moment, hesitate to adopt a measure every way calculated still more to develope her natural resources? As it is an admitted axiom, *that health is essentially necessary to the happiness of society*, the adoption of a registration of births, deaths, and marriages, with the specified cause of death, rests upon her as an imperious obligation. Equally does the obligation rest upon the State Medical Society to urge this great measure upon the attention of our Legislative body; and in first bringing it before the public, let the Medical Society of the City and County of New York take the lead. Such a course, at the present time, when all restrictions on the practice of medicine, in this State, have been removed by legal enactment, is the more necessary; for now, when the public are no longer legally defended against their own rashness and folly as respects the imposition of quackery, which restrictions, however, have been generally regarded by that public as the privileges of what have been called the regular faculty, it behoves the latter to give such evidence of their regard for the common welfare as will enlighten the public mind upon the subject of public health. In the language of Southey—

> "Man is a dupeable animal. Quacks in medicine, quacks in religion, and quacks in politics, know this, and act upon that knowledge. There is scarcely any one who may not, like a trout, be taken by tickling."

Art. XIV.—*Medical and Physiological Commentaries.* By Martyn Paine, M.D., A.M., Professor of the Institutes of Medicine and of Materia Medica in the University of New York, Member of the Royal Verein Für Heilkunde in Prussen, etc. Vol. III. New York: Printed for the Author. 1841-1844.

This volume, which the author has issued as the third volume to his *Medical and Physiological Commentaries*, consists chiefly of pamphlets in their defence against the criticism of two distinguished European Medical Reviews; but there are several other papers, all of which, however, are not without some relation to the Commentaries. "The more the author has deliberated upon the justice and propriety of thus collecting his defensive essays," he tells us, "the greater have become his reasons for adhering to the design, as expressed in these papers, of incorporating them with the work assailed, 'that proper issue may obtain between the reviewer and the author.'"

In addition to the pages devoted to these defensive essays, the volume contains dissertations on the "Philosophy of Vitality and the Modus Operandi of Remedial Agents," a "Discourse Introductory to a Course of Lectures on the Institutes of Medicine and Materia Medica," a "Lecture on the Improvement of Medical Education in the United States," a Defence of this last lecture, Letters on the Cholera Asphyxia of New York, etc.

> "Four years," says Dr. Paine, "have passed since the publication of the two volumes with which the present is now connected. During that period the author has been laboriously employed in the investigation of the several topics whose discussion makes up the Commentaries; has prepared for publication a large work on the Institutes of Medicine; has delivered three courses of lectures upon the Institutes; has carefully reviewed the Commentaries themselves, and has been actively engaged in professional business. With this additional experience and information, and with all the light of criticism, and the march of chemistry, before him, the author avers that there is not one line in the Commentaries which he would wish to erase or to amend; with the single exception of a verbal error which is noticed in his 'Reply to H. I. B.' In respect to chemistry, the author may safely affirm that not a fact has been subsequently disclosed that reflects the smallest light upon physiology or pathology. The whole of that ground, wherever chemistry had obtruded itself upon the science of life and disease, is so amply explored in the Commentaries, that not a substantial fact, nor a vague conclusion, has been put forth by the school of Liebig, which is not there examined, anticipated, and answered, as something which had already an existence, or was likely to emerge from the speculative philosophy of the laboratory then in almost universal vogue. That this is not the author's opinion alone appears from numerous admissions that have fallen from the press."

The author here quotes our own opinion, as expressed in a previous number of this Journal; and we would add, in conclusion, that the history of our author's Commentaries must ever serve as a caution to medical editors, how they attack the writings of authors who boldly leave the beaten track pursued by their predecessors, in search of new truths.

Art. XV.—*Transactions of the New York State Medical Society, which met at Albany, on the* 6*th of February,* 1844, *pursuant to Statute.* Vol. VI., Part I., 8vo., pp. 150.

These transactions, we are proud to say, constitute an interesting collection of papers, comprising the following essays: 1. The Annual Address, by Professor White, on Insanity, which was noticed in our number for May; 2. Observations on Equivocal Generation, prepared as evidence in a Suit for Slander, by Thomas W. Blatchford, M. D.; 3. Medico-Legal Observations on two cases in which the crime of Murder was charged, by Augustus Willard, M. D., of Greene, Chenango County; 4. Medico-Legal Testimony on the Trial of Mrs. Turpening for the Murder of her Husband, with Observations on the same, by N. S. Davis, M. D.; and 5. On the Deaths from Poisoning, in the City and County of New York, during the years 1841, '42, and '43; obtained from the Records of the Coroner, by John B. Beck, M. D., Prof. of Materia Medica and Medical Jurisprudence, in the College of Physicians and Surgeons of New York.

The Appendix consists also of a variety of interesting papers: 1. An Abstract of the Proceedings of this Annual Session of the Medical Society of the State; 2. List of Officers; 3. The Powers of County Medical Societies, as to the admission of Members; 4. Report of a Committee on the subject of Legislation, in which the Laws relative to Quackery, in the different States of the Union, are adduced; 5. Legislative Documents, being various Reports, Speeches, and Petitions, made to the Legislature on subjects connected with the interests of the Medical Profession; and 6. Classification of Counties.

Passing over the President's address, noticed before, the next essay is by Dr. Blatchford on "*Equivocal* Generation." Dr. B. was subpœnaed as a witness, in 1836, in a case of slander, in which one woman was accused by another of having become pregnant by a dog; and the question upon which he prepared written testimony, was, "Is it possible for a woman to become pregnant by a dog, and to bring forth pups or any other issue as the result of such unnatural intercourse?"

First, as regards the use of the word *equivocal*, which here finds an application, in which we do not recollect having ever before seen it used. The term *equivocal*, strictly defined, means *spontaneous* generation, as, for instance, the supposed production of the lower forms of life by chemical agency. But it may, perhaps, be applicable to any mode of generation differing from the usual laws.

This is a very valuable paper; and our only regret is, that we have not the space to spare requisite for laying it before the reader more at large.

> "We learn," says Dr. B., "from the account given by Moses of the creation, that each plant and each animal throughout the whole extent of organic nature, at the time of their creation, received a command to 'bring forth seed after his kind which was in himself;' and then follows the evidence that the command was obeyed, 'and it was so.' And it is a fact worthy of observation, that all the investigations of naturalists, from the most remote to the latest period, tend only to give additional proof that this law is still universally obeyed."

* * * * * * * * *

> "It may however be said, that the fact of *hybridous productions*, or cross-breeds as they are sometimes improperly called, may be opposed to the existence of this general law, which I am endeavoring to trace. With respect to these, however, as far as it concerns the animal kingdom (and I believe it holds good also in the

vegetable kingdom), it is known that they cannot be produced except between individuals of the same species, and even in these few instances it seems to be the concurrent opinion of naturalists generally that they must first be domesticated, for in a state of nature these productions are not known. Besides their domestication, there must be an exact agreement in three essential particulars.

"1. Both species must possess organs of generation exactly alike.

"2. The time they go with young must be the same.

"3. They must agree in their manner of copulation.

"Hybrids among animals occur only in a very few classes. There is that of the horse and the ass kind, but here we find the female ass and the mare furnished with organs of generation precisely similar, their period of gestation is the same, being a little over eleven months, and so is their manner of copulating; thus there is a concurrence of these three important particulars, essential to pregnancy in cross-breeds. The same similarity occurs between the male organs of generation in the jack and the stud as occurs between those of the females of the same species. But here a circumstance should be mentioned which shows very strongly the antiphysical nature of such abnormal productions. The hybrids of these animals never possess the power of reproduction; although as far as the investigations of the anatomist can ascertain, they are furnished with all the necessary organs of generation, and the male mule is vastly more lecherous than either the jack or the stud. Aristotle, however, a celebrated ancient philosopher, contended that the male mule could impregnate the female ass, because the organs of generation seemed so perfect; but Dr. Goldsmith very shrewdly remarks, that there being no instance of its occurring since the death of Aristotle, he should think two thousand years quite sufficient to try the experiment and settle the question.

"It has been ascertained, says Cuvier, that the female zebra may successively produce young with the horse and the ass; and here too is an exact agreement in the three essential particulars."

* * * * * * * * *

"Upon the *dog*, the *wolf*, and the *fox* (three animals resembling each other so closely, that Cuvier says a written generic and specific description of the one suits the rest, and if it were not for drawings and specimens, no just idea could be given of the differences between them)—upon these animals fruitless experiments have again and again been made to ascertain whether they would cohabit promiscuously with each other. The organs of generation are alike in all three, and the manner of copulation is the same likewise; but a difference exists between them in the period they go with young. The fox goes six weeks, the dog nine, and the wolf fourteen. This is doubtless the great barrier, which, together with the almost irreconcileable hatred subsisting among them toward each other, the wise Creator has set up to prevent their promiscuous union. If so, we may safely predict that every succeeding experiment will be alike unsuccessful. No naturalist labored more perseveringly in this field than the elegant and indefatigable Buffon. He procured pups of the wolf and the dog when they were under a fortnight old, he brought them up together in a large retired enclosure, suffered no individual to molest them, and none to visit them but their keeper; and although the wolf, which was the female, was regularly in heat at the season, no kind of sexual intercourse was ever observed between them; and although the experiment lasted three years, and every regulation was adopted calculated to favor the end proposed, the result was the same as in all preceding experiments, having the same end in view."

There is one point, however, which, notwithstanding Dr. B. has strongly fortified his opinion on every side, we are disposed to contest, namely, his denial of the fruitful cohabitation of the dog, the wolf, and the fox.

Our own experience among the Seminole Indians led us to believe that the dog and wolf procreated together, and this is the universal opinion both among the red and the white men on the frontier. We have seen many dogs whose wolfish characteristics were so obvious as to excite the remark of the most superficial observer. Indeed, the question would often arise—is that a dog or a wolf? Moreover, we have a strong confirmation of this opinion in a recent communication received from W. J. King, M.D., of the Medical Staff, U. S. Army, on the *Vital Statistics of the Winnebagoes*, who has been stationed four years among that tribe. As we are in constant expectation of receiving additional data from Dr. K., we have thus far delayed the publication of his interesting paper; and, on the present occasion, we propose making use of such part of it only as pertains to the question under consideration. Thus—

> "On the question of different species of animals, it having become a matter of some importance, on account of its bearing on another great question, I have instituted inquiries from time to time respecting the dog and wolf, which Dr. Godman, I believe, describes as two distinct species. The result here, is, that the *dog and wolf breed as readily together as when confined to their own race respectively;* and succession and *constant* succession follow their union. Nearly all the dogs owned by them are a mixture of the two; and it is the opinion of the old men among the Indians here, who are the best judges in the world on this subject, that the same is true of the dog and fox; thus proving, according to the best authorities on this subject, the identity of the three species."

Although we feel that we have been scarce able to do justice to Dr. B.'s paper in the short space allowed, yet we are obliged to pass on to the last paper of these Transactions, after giving the following rational conclusion arrived at by Dr. B.:

> "These are some, at least, of the reasons which influence me in the opinion already expressed, that it is utterly impossible, under any circumstances whatsoever, for a woman to become pregnant by cohabiting with a dog, and bring forth any offspring as the result of such a connexion; and much more the regular offspring of the dog. The thing to my mind is an utter impossibility, unless the immutable laws of nature can be supposed to change."

The last paper just adverted to is by Prof. John B. Beck, relative to the "Deaths from Poisoning, in the City and County of New York, during the years 1841, 42, and 43, obtained from the Records of the Coroner."

> "Believing," he says, "that the records of the coroner of so extensive a population as that embraced in the city and county of New York, might afford some valuable materials, worthy of publication, I recently applied to that officer to furnish me with a list of such inquests for poisoning as had come under his jurisdiction, accompanied with an account of the various circumstances of interest connected with each case. He promptly complied with my request, and furnished me with the following report, which I transmit for publication in the Transactions of the State Medical Society, not doubting that it will be deemed of sufficient interest to find a place. The gentleman who has held the office of coroner during the last three years, is Dr. C. B. ARCHER, and I believe that I express the common opinion of the profession, when I say that the duties of it have been performed by him with great fidelity and ability. Dr. Archer is, I believe, the first medical man who has held this situation in this county. His successor is also a medical man, and I should hope that the principle is now established (in this county at least), that the office belongs of right to the medical profession. It seems strange indeed, that it should ever have been considered otherwise. No one who is not a physician, let him be ever so intelligent in other respects, is competent, from the very nature of the case, to perform its duties.

Were the public justly to appreciate the functions of the coroner, and did they reflect how greatly the due administration of justice in criminal cases depends upon the preliminary investigations of this officer, one would suppose that none other than an intelligent physician would ever be tolerated. The public have, however, hitherto judged differently, and the examination of the most intricate questions, involving character and life, has been committed to the jurisdiction of men profoundly ignorant of everything relating to these questions. That this is a great public evil cannot be questioned, and the correction of it ought to be attempted as speedily as possible. No legislative act can of course touch the case, and it only remains for the united profession to exercise their influence in endeavoring to awaken the public mind to a just appreciation of the subject."

The table furnished to Dr. Beck, by the coroner, consisted of 83 deaths, from which the following arrangement of the leading facts was deduced by him :

"From the foregoing report of the coroner, it appears that of the preceding cases there were, of males 46, females 37.

Of those, poisoned by

Arsenic,	13	Ardent Spirits,	1
Opium,	8	Gin,	1
Laudanum,	39	Alcohol and Laudanum,	1
Paregoric,	1	Brandy and Laudanum,	1
Solution of Morphia,	3	Strychnia,	1
Corrosive Sublimate,	3	Prussic Acid,	1
Colchicum,	1	Phosphorus,	1
Sulphuric Acid,	2	Carbonate of Potassa,	1
Tinct. of Sanguinaria,	4		—
Tartar Emetic,	1		83

Of the 83, there were, suicides,	50
Taken by mistake, or through ignorance, &c.,	28
Unknown,	5

"It appears that the two poisons principally used were *arsenic* and *opium*, in some of its forms.

"In the cases of poisoning by *arsenic*, the smallest quantity was one drachm, and the largest two drachms. The shortest time intervening between the taking of the poison and the death, was 4 hours, the longest, 2 days.

"In the case of poisoning by *opium*, the smallest quantity was one drachm, the largest, one and a half ounce. The shortest time between the taking and death, 8 hours, longest, 20 hours. Average time of six cases, 14 hours.

"Of the cases of poisoning by *laudanum*, the smallest quantity was *one drop*, the largest, 16 ounces. The shortest period between taking and death, 2 hours, the longest, 48 hours. Average of 23 cases, 12 hours."

The interesting papers contained in the Appendix, cannot be further reviewed just now ; but there are subjects comprised in it, which would warrant our resuming the thread of our narrative in a future number.

Art. XVI.—*The Principles and Practice of Modern Surgery.* By Robert Druitt, Surgeon. From the third London Edition. Illustrated with 153 wood engravings. With Notes by Joshua B. Flint, M.D., etc. Philadelphia: Lea and Blanchard. 1844. 8vo. pp. 560.

This is an admirable condensation of the principles and practice of modern surgery, of which the best evidence is to be found in the fact, that it has already passed through three editions in England, while the present is the second American edition. There is no work of a similar kind in the English language, in which the principles and the practice are condensed within so small a compass; although the present edition contains 50 pages more than its predecessors. The materials have evidently been gathered from the best sources; Hunter, Pott, the Bells, the Coopers, Abernethy, Travers, Lawrance, Guthrie, Liston, Mayo, Green, Copland, Graves and Watson.

The illustrations, which are numerous, are executed in the first style of the art; and the manner of getting up the work does great credit to the American publishers. We know no better work, as a text book for medical students, while attending lectures; and we take great pleasure in recommending it, not only to them, but to the practising physician, as one of the best compendiums which he can consult, to refresh his mind in the intervals of his laborious avocations, with the established principles and practice of the surgical art.

Art. XVII.—*On Sterility in the Male and Female, its Causes and Treatment.* By the Chevalier V. Mondat, D. M. P., Professor of Anatomy and Diseases of Women and Children, etc. Translated from the fifth French edition; with fifty illustrations. New York: J. S. Redfield. Boston: Saxton, Pierce & Co. 1844. 12mo. pp. 248.

In our country where population has fair play, the natural increase experiencing a duplication every twenty-five years, it may be thought that such a book would not have a very great demand, however it may be in the old European populations, where a duplication of the human race scarcely occurs in double the time, from natural increase. But this is a question that belongs more to political economy than to medicine; and it is now indubitably established, that wherever sustenance is abundant, there is most fecundity found. It has been no less truly than quaintly said, that "wherever there is a loaf added, there is a man born." But this book is not intended as a treatise on political economy, but it is addressed to the individual, in the hope, doubtless, that if it is not patronized by science, it will at least be sought out by vulgar curiosity.

The author first treats of the anatomy and physiology of the genital organs in both sexes; next, of the etiology and therapeutics of sterility; and lastly of the pharmacology applied to its cure.

The subject is undoubtedly treated scientifically; but there is so much in the volume that is objectionable, that we almost hesitate in its recommendation. The *congester*, used for the purpose of remedying sterility in the male, when it arises from the loss of the power of exciting erections, is no doubt constructed on philosophical principles. This instrument is cylindrical in form, and is so arranged that an exhausting pump can be attached to it; but, as we do not wish to soil our page with a further description, we will leave the rest to the imagination of the reader.

The entire volume partakes of this character, which, were it strictly limited to the purposes of the scientific physician, might often be of service in removing causes of unhappiness in married life; but we fear that the majority of its readers will be influenced by less worthy motives.

As our author calculates that the causes of sterility in the female are much more numerous than in the male, in the proportion of thirty to one, in which opinion as a general fact he is no doubt correct, the subject gains additional importance as relates to the former sex.

Upon the whole, we think it a doubtful question, whether the cause of good or of evil would receive the greater promotion, by the general introduction of the *congester*, the *asterasic pommade*, and the *anti-anaphrodisiac liniment*.

ART. XVIII.—*The Art of Living.* By Dr. HENRY DUHRING. London: Longman, Brown, Green & Longmans. New York: Wiley & Putnam. 1843. 8vo., pp. 144.

THIS little volume teaches us "in what manner, and by what means, we may hope to render our existence as pleasant or happy as it possibly can be;" and, in the investigation of a subject so extensive as that of determining the best mode of attaining this object—the art of living, physically, mentally and morally, according to the laws of Hygiène—the author has condensed within a narrow compass some very important general principles. The conditions, so very important to our well-being and happiness, selected for discussion and illustration, are the following:

> "FIRST PRINCIPLE.—The nature of human life is *twofold*, mental and physical; and human happiness is the result of the well-being and harmony of both.
>
> "SECOND PRINCIPLE.—Providence has constituted us with a view to activity; and in accordance with this law of our nature, *labor*, either of the mind or body, is the only source or means of our enjoyment.
>
> "THIRD PRINCIPLE.—As the human machine, like a common piece of mechanism, wears out most rapidly where there is the greatest friction and straining, relaxation of both our mind and body is an indispensable condition of man's happiness.
>
> "FOURTH PRINCIPLE.—The study of nature, and the practice of horticulture, constitute the surest foundation of man's happiness.
>
> "FIFTH PRINCIPLE.—There is nothing to be found in the wide world so pregnant with satisfaction, interest, and happiness, as the associations that cling to a happy home."

We commend this work to the attention of all readers; for, as our author observes, "to expect much happiness from an existence with the conditions, laws, and capabilities of which we hardly, if at all, are acquainted, would be expecting to reap where we have not sown."

Art. XIX.—*A Treatise on Hare-Lip and its Treatment.* By Dr. S. P. Hullihen, Wheeling, Va. pp. 12.

This is an excellent brochure uponthesubject on which it treats, which first appeared in the American Jour. and Lib. of Dental Science. Dr. H. shows clearly, from extensive personal experience, that the age most favorable for the operation is the period prior to dentition.

As regards preparatory treatment, he makes the following judicious remarks:

"Preparatory treatment is applicable in all cases of hare-lip during infancy, where the deformity is accompanied with a cleft of the alveolar and palatine arches. It consists in restoring the alveolar arch to its proper form, before the operation for the cure of hare-lip is attempted.

"A cleft of the alveolar and palatine arches, like that of the lip, is a congenital separation of the parts, with but little if any loss of substance. Its connection, therefore, with hare-lip greatly increases the deformity of the whole countenance. The edges of the lip formed by the fissure are always carried apart as much farther than is usual in simple cases of hare-lip, as the cleft may be wide in the alveolar arch. The nostril over the cleft is likewise stretched out and depressed; a projection of the alveolar process frequently occurs, and the face is always very perceptibly widened, all resulting from the cleft in the jaw, and all increasing or diminishing in deformity, in proportion as the cleft may vary in width.

"To unite the edges of hare-lip, where this complication of the deformity exists, is always more or less difficult, and sometimes even impossible, and when accomplished will not restore the form of the nostril, correct the projections of the alveolar process, nor relieve the unseemly width of the face, except in a very limited degree. But closing the cleft in the alveolar arch corrects, at once, all these irregularities, and at the same time approximates the edges of the lip so closely that they may be most admirably united, without the least danger to the infant or to the success of the operation. It is upon these grounds that the utility and importance of preparatory treatment is urged.

"The closure of the cleft in the alveolar arch may be effected in a variety of ways; but the most simple, and at the same time the most effectual, may be accomplished solely by the use of the adhesive strap, properly applied upon the cheeks.

"The cartilaginous state of the bones in early infancy requires but little force to bring them into any desired position. But in removing the deformity of a cleft alveolar arch, a force of a twofold nature is often required, both to bring the edges together, and at the same time compress any projections of the alveolar process which may exist. In the proper application of the adhesive strap may be found this happy combination.

"The form of the strap which I have usually employed for this purpose is represented in the following cut. It should be left as large at each end as the size of the cheek will permit, and slitted at different places, so that it may adhere smoothly and firmly. The part required to pass over the lip should be somewhat less than half an inch in width, the edges of this part being doubled over and fastened together, in order to give it the necessary strength and stiffness.

"The strap may be applied in the following manner: after being properly warmed, one end should be quickly and well adhered to the cheek of one side, then, pressing both cheeks forward, and passing the strap over the upper lip, close to the nose, it should be adhered in like manner to the cheek of the other side. By thus confining the cheeks forward, a force is obtained and exerted upon the jaw, sufficiently great to close in a few weeks the widest cleft of the alveolar arch, and at the same time to correct any projections of its process. The strap should be kept perfectly tense. It is therefore necessary to tighten it every day or two, which may be done by cutting a small portion out of the narrow part, and then sewing it together, without disturbing its adhesions to either cheek. In this way, the same strap will last for several days, and is so easily tightened that its management may be safely entrusted to the parents of the child. As the wearing of the strap never excoriates the parts, nor produces the least pain to the infant, however young, it is advisable to apply it as soon after birth as possible, as a cleft in the alveolar arch is more easily closed at this period than at any other; and as the strap is always of very great assistance to the infant in taking its food. In cases of simple hare-lip, without any cleft in the alveolar arch, the use of the strap will enable the child to nurse at the breast with but little if any difficulty.

"In the summer of 1839, I was requested to see an infant that had been born a day or two before, with hare-lip, the fissure extending into the nostril, but without any deformity of the jaw. I immediately applied the strap, with the view of enabling the child to nurse at the breast, and the experiment was perfectly successful. The child could at once seize and retain the nipple in its mouth, and soon learned to suck without any difficulty. Since then, I never have had an opportunity of repeating the experiment, except on an infant that had previously acquired the habit of receiving its food, for a long time, from the spoon. In this case the result was entirely unsuccessful.

"The time generally required to close a cleft of the alveolar arch, depends more upon the age of the infant than upon the size of the cleft. In the year 1838, M. H., of this city, requested me to see an infant of his, that had been born the night before, with a hare-lip, and the most extensive division of the alveolar and palatine arches, I ever witnessed. The cleft was nearly an inch in width, causing such deformity of the face as such a division can only produce. I at once applied the strap, and by close attention to the case succeeded in bringing the alveolar process together, in three weeks from the time that the strap was first applied.

"In another case where the child was nine months old, it required eight weeks to close a much smaller cleft. As this was the oldest child I was ever called upon to treat, where the use of the strap would have been of the least advantage, I have no means of determining the length of time it would require to close a cleft in a child of one or two years of age. It generally requires from four to six weeks to close the cleft in infants under five months old.

"As soon as the cleft edges of the alveolar arch are brought together so as to touch each other in the slightest manner, the operation for the cure of hare-lip may be properly performed. The union of the lip in all such cases has the effect of completing the closure of the cleft in the alveolar arch. The treatment of the cleft in the roof of the mouth and soft palate, must now be abandoned, until the patient becomes more advanced in life, and may, perhaps, form the subject of some future paper."

Art. XX.—*The Cyclopædia of Practical Medicine.* Parts VII., VIII., IX., X.

This work advances with commendable rapidity toward its completion. The whole is to be brought to a close in four volumes, and already have nearly two volumes been issued. Punctuality is commendable in all things, and especially so as regards a book published in parts; and this is a merit that the publishers and editor of the work before us possess in a high degree. Notwithstanding the serious objections that we have shown to exist in regard to certain parts of this work, we are free to admit its high merits in other respects. As regards the code of hygiology and physical education, as well as the immense body of medical theory and practice, with certain exceptions, contained in these volumes, the reader cannot but be enlightened by the perusal of their pages.

Art. XXI.—*A Dictionary of Science, Literature and Art: comprising the History, Description, and Scientific Principles of every branch of Human Knowledge; with the Derivation and Definition of all Terms in General Use.* Edited by W. T. Brande, F. R. S. L. and E. of Her Majesty's Mint, Professor of Chemistry in the Royal Institution of Great Britain, etc. Assisted by Joseph Cauvin, Esq. Illustrated by numerous engravings on wood. New York: Harper & Brothers. 1843. 8vo. pp. 1352.

As this volume comprises within a nut-shell, comparatively, the circle of human knowledge, and as every subject is admirably treated, and as it embodies the latest information, being on a level with the most advanced state to which knowledge has attained, we know of no single work of the same character and dimensions that we could more cordially recommend to our readers. Among the many Encyclopædias and Special Dictionaries issued in recent years, there are very few, if indeed any, which are not either too voluminous or too special for ready reference or general use. The distinguishing feature of a useful Dictionary, ought to be, a facility of reference and precision of statement—qualities which surely are not possessed by our great modern Encyclopædias; for many of their articles are of such a length that a single one would of itself form a large volume, not to speak of the theoretical character and frequent obscurity by which many are characterized. Notwithstanding their value as substitutes for libraries, they are unfitted to be convenient manuals for the mere purpose of ready consultation. To special Dictionaries, the objection obtains that they are limited to a single department of science, literature, or art; but in each of which branches they may prove invaluable to those engaged in its special cultivation. Hence a desideratum—a work having the comprehensive character of a general Encyclopædia without its amplitude—has been long felt to exist in encyclopædical literature; and this want we feel assured has been supplied in this condensed and compendious Dictionary, which affords, in a convenient form, an abstract of the principles of every branch of human knowledge, and a definition and explanation of the various terms in science, literature, and art. It will be found useful to individuals of every rank and condition—to the student and superficial reader, to the man of business and the man of pleasure; in a word, to every one who ever takes a share in conversation, or ever indulges in the luxury of dipping into a newspaper.

Art. XXII.—*Astronomical and Meteorological Society of British Guiana.*

We are indebted, we presume, to Daniel Blair, C.M., Colonial Surgeon, Georgetown, British Guiana, for some valuable Meteorological and Hospital Reports, for the last half of the year 1843.

The meteorological observations are made at the Colonial Hospital at Georgetown; and they are remarkable for their extended character, embracing the thermometer, barometer, hygrometer, pluviometer, evaporometer, anemometer, sympiesometer, electrometer, and observations upon the clouds.

The Hospital Reports include those of the General and Marine Hospitals, and that of the Lunatic Asylum.

Accompanying these Reports is a paper giving the rules and regulations, as well as instructions and bye-laws, of the "Astronomical and Meteorological Society of British Guiana," which is under the patronage of his Excellency, Governor Light.

ART. XXIII.—*A Conspectus of the Pharmacopœias of the London, Edinburgh, and Dublin Colleges of Physicians, and of the United States Pharmacopœia, being a Practical Compendium of Materia Medica and Pharmacy.* By ANTHONY TODD THOMPSON, M.D., F.R.S. *The Third American Edition, much enlarged and improved.* Edited by CHARLES A. LEE, M.D. (From the thirteenth English Edition). New York. H. G. Langley, 8 Astor House. 1844.

THIS excellent Manual of Materia Medica, Pharmacy, and Toxicology, has in one year, from the publication of 1500 copies, passed to a new and much improved edition. It now contains all the articles of the foreign Pharmacopœias, of the new U. S. Pharmacopœia, of Dunglison's "New Remedies," and of the late additions to Wood and Bache's Dispensatory, compressed into a small pocket manual of 320 pages. The toxicological part has been improved and enlarged, by the addition of about thirty pages, relating chiefly to the *tests* of the different poisons; so that in it will be found all that is essential to the physician in conducting experiments relating to this branch of medical jurisprudence. The editor has freely availed himself of the labors of Taylor, Guy, and other late writers on this important subject. We can cheerfully recommend this work to the medical student, as indispensable in pursuing the study of Materia Medica; to the practising physician, as useful in refreshing his memory, in relation to the choice of remedies, their effects, doses, incompatibles, &c.; and to the chemist and druggist, as containing all the modes of compounding and preparing medicines, which are found not only in the principal foreign standard authorities, but also in the new edition of our own national pharmacopœia.

ART. XXIV.—*On Superstitions connected with the History and Practice of Medicine and Surgery.* By THOMAS JOSEPH PETTIGREW, F.R.S., F.S.A., Doctor of Philosophy of the University of Göttingen, etc. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1844. 12mo. pp. 213.

THIS little volume possesses much interest, not only to the professional student, but to the general reader. The tenor of the whole work goes to establish the following proposition:

> "Man is a dupeable animal. Quacks in medicine, quacks in religion, and quacks in politics, know this, and act upon that knowledge. There is scarcely any one who may not, like a trout, be taken by tickling."

The general subjects treated of are the following: Alchymy, Astrology, Early Medicine and Surgery, Talismans, Amulets, Charms, Influence of the Mind on the Body, Royal Gift of Healing, Valentine Greatrakes' Cures, and Sympathetical Cures.

It is remarked by Bacon, that "witches and impostors have always held a competition with physicians;" and this fact is fully illustrated by our author in every age of the world. He remarks:

> "The quadrature of the circle; the multiplication of the cube; the perpetual motion; the philosophical stone; magic; and judicial astrology, have been aptly denominated 'The six Follies of Science.' However vain has been the study, and however futile the results, the indulgence of the vanity and the pains of research have not been unattended with benefit to mankind, inasmuch as they have been the cause of many discoveries of much importance. The errors in medicine have usually originated in the speculative conceits of men of superior capacities. 'The blunders of the weak are short-lived, but a false theory, with a semblance of nature, struck in the mint of genius, often deceives the learned, and passes current through the world.'"

We heartily commend this little work to the curious of all classes of readers.

ART. XXV.—*A System of Human Anatomy, General and Special.* By ERASMUS WILSON, M.D., Lecturer on Anatomy, London. Second American Edition. Edited by PAUL B. GODDARD, A.M., M.D., Lecturer on Anatomy and Demonstrator in the University of Pennsylvania. With over 200 illustrations. Philadelphia: Lea & Blanchard. 1844. 8vo. pp. 607.

A Manual of Examinations upon Anatomy and Physiology, Surgery, Practice of Medicine, Chemistry, Materia Medica, Obstetrics, etc. Designed for the use of Students throughout the United States. By J. L. LUDLOW, M.D. Philadelphia: Ed. Barrington & Geo. D. Haswell. 1844. 12mo. pp. 615.

MR. WILSON, before the publication of this work, was very favorably known to the profession by his treatise on Practical and Surgical Anatomy; and as this is the second American edition, from the second London edition, since 1840, any special commendation of the high value of the present work, on our part, would be supererogatory. Besides, the work has been translated at Berlin, and overtures were repeatedly made to the London publisher for its reproduction in France. The work is, undoubtedly, a complete system of human anatomy, brought up to the present day. The illustrations are certainly very beautiful, the originals having been expressly designed and executed for this work by the celebrated Bagg of London; and, in the American edition, they have been copied in a masterly and spirited manner. As a text-book in the various colleges, we would commend it in the highest terms.

The Manual of Examinations is also a work which seems to fulfil its object. "Designed for the use of students of medicine throughout the United States," it very evidently answers the purpose of reviving "his recollection of subjects treated upon in more voluminous works."

Art. XXVI.—*A Dictionary of Practical Medicine, comprising General Pathology, the Nature and Treatment of Diseases, Morbid Structures, and the disorders especially incidental to Climates, to the Sex, and to the different Epochs of Life; with numerous prescriptions for the Medicines recommended, &c.* By James Copland, M.D., F.R.S. Edited, with Additions, by Charles A. Lee, M.D., Professor of General Pathology and Materia Medica in Geneva Medical College, &c. Part I. pp. 200. October. H. G. Langley, 8 Astor House.

Our notice of the great work of Dr. Copland in our last number was so copious, that there is less need of going into detail on the present occasion. The first number, which is now printed, will speedily be in circulation, so that the profession will be able to judge for themselves as to the merits of the work.

On comparing it with the English copy, we find that the American editor has added upwards of forty pages of original matter, all of which is calculated to enhance the value of the work to the American practitioner. The additions are chiefly of a practical character, relating to the pathology and treatment of disease. The article on the effects of "Arts and Employments on Health" has been very judiciously extended to more than four times its original length, and the additions, we believe, will be found of great interest. The attention paid to the causes as well as the treatment of disease, in this work, which is one of its most important and characteristic features, we consider, gives it a value to the physician which cannot be claimed for any other publication of a similar kind. On the whole, no work on practical medicine has ever been issued in this country which has stronger claims on the patronage of the profession than Copland's Dictionary; and we cannot doubt that it will find a place in the library of every physician, more especially as the terms (50 cents a number) place it within the reach of all. The succeeding numbers, we are informed, will contain about 150 pages each.

We congratulate the profession on the rich and abundant supply of medical reading now furnished them by the enterprising publishers of our principal cities; and we augur from it the most auspicious results to the progress of medical science in our country. It, moreover, speaks well for the profession, and proves that, as a body, they are in the habit of reading; for if books were not in demand, they would not be printed, and we take it for granted that, if purchased, they are read. Here are two large cyclopedias of practical medicine in course of simultaneous publication, both of them possessing great merit, and both extensively patronized, besides the re-publication of all the best works issued on the other side of the Atlantic, to say nothing of the excellent "Sydenham Library," and numerous domestic as well as foreign medical journals. Does not all this prove, in a very satisfactory manner, that our physicians are, as a class, paying far more attention to the literature of their profession than formerly, and that the time is not distant, if it has not already arrived, when they will not suffer by comparison with those of Great Britain?

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *Description of a Double Bicephalous Monster.* By Dr. Benedini.—On being called to this woman, Dr. Benedini found one of the heads in the pelvis. After it had passed the external orifice, no efforts could advance it any farther, and a suspicion of the real state of the case having been excited after careful examination, it was believed best to separate the head first born, and then attempt to complete the delivery by bringing down the feet. This was effected after long and arduous efforts, and birth given to an immense monstrous fœtus at the full time. The mother, notwithstanding her suffering, made a good recovery.

The monster weighed twelve and a half Austrian pounds, and was eighteen Paris inches in length. Its greatest circumference was nineteen and one-fourth inches. There was a single umbilicus, exactly in the centre of the body. The nails were perfectly developed. The hair thick and long, covering the two heads, which were well formed, and each as large as that of a fœtus at the full time. The surface of the body was smooth, the members very well developed. In fact, there was every appearance of full maturity.

On examining the external configuration of the monster, it was evident that the two fœtuses, one of which we shall call the right, and the other the left, were united along the thorax and abdomen. The right costal half of the anterior part of the chest was formed by the right fœtus, and the left by the left. The thorax was large, and the ribs, longer and more arched than common, were inserted into a prominent sternum, on each side of which, in their usual situation, were observed the two mamillary prominences. Posteriorly, and somewhat to the left side, the conformation of the thorax became more complicated. Here the confused traces of another imperfectly developed and extremely irregular sternal region could be felt. Two small eminences, with an areola, were also to be observed here, and lower down, forming a triangle with them, another point indicating the situation of an umbilicus. The direction of the two vertebral columns could be distinctly felt and followed. Each fœtus had a distinct spine, apparently well formed, and distant from one another one-fourth of an inch at the upper part, whence they gradually approached one another, and united finally into one near the top of the sacrum.

The two heads were united to this double trunk by separate necks. They are precisely similar, with the faces directed forwards. The thyroid glands were enlarged in both. From the sides of the thorax hung the two arms in their natural situation. Posteriorly, and between the two heads, there was a third arm, articulated in a kind of deformed scapula,—the humerus being larger than natural, and the fore-arm consisting of a double set of bones as far as the wrist, to which were attached the two small hands. Precisely under this third arm, and where the axillary cavity should have been, existed the traces above described of a second imperfect thoracic cavity.

The abdomen anteriorly became, toward its lower part, simpler and less voluminous, in fact, more like that of a single fœtus; and the inferior extremities came off in their natural situation, one belonging to each fœtus, and both well developed. But posteriorly, and a little more to the left, there were superadded to the natural pelvis another os ilium and a deformed portion of pelvis, whence arose an osseo-carneous process two inches in circumference, and oblong, with three articulations; and terminating at its lower extremity in something like a human foot, with three phalanges or toes furnished with nails. This protuberance was in the same direction as the superadded upper extremity above described.

A single umbilical cord in the middle of the anterior part of the belly,—the genital organs single, and of the male sex,—the penis well developed, two testicles in the scrotum,—a single orifice in the raphe precisely at the root of the penis, from which meconium issued (which was the only sign of an anus),—were the principal additional points observed externally.

On opening the anterior thoracic cavity, it appeared unusually large, as being formed by the anterior portions of the chests of both fœtuses. It extended from one vertebral column to the other, between which was an ample sac, the pericardium; on opening this sac two small hearts were observed floating in about two ounces of aqueous fluid. The hearts were quite free and unconnected, but lying in close contact parallel to one another. At the sides of the two vertebral columns were the lungs, and around the heart the double arterial and venous system; and finally, the arterial canal from which the small pulmonary arteries proceeded to divide in the respective lobes of the lungs. Posteriorly, the cavity was closed by a fibrous septum adhering to the two vertebral columns,—above by the thymus gland, which occupied the lower part of the neck and the upper part of the chest above the pericardium; and below, by the diaphragm, which, attached to the two vertebral columns, the posterior fibrous septum, and the anterior part of the ribs, separated the thoracic and abdominal cavities.

The abdominal cavity was next examined. There was a single liver of large size, occupying the whole upper part of the abdomen, into the concave surface of which the umbilical vein was inserted. The gall-bladder, stomach, pancreas, spleen, and intestines, were all single, and in their natural situation. In the pubic region were two urinary bladders situated one anteriorly, and the other posteriorly—the first full of urine, the last empty, and both terminating in one neck of the bladder, and in one single urethra. The kidneys were four in number, two naturally situated in the cavity now described, and two very small ones in a superior posterior narrow cavity to be described immediately. As to the course of the ureters, it was impossible to trace them accurately, or say in which of the bladders they respectively terminated, owing to the depth at which they lay, and the quantity of fat with which they were surrounded.

On directing the attention to the posterior cavities, observed in the thorax and abdomen, the integuments being removed from the former, exhibited the sterno-costal ossification of small size, irregularly arched, and having its parts closely united. On removing the bones, two small shrivelled lungs were observed lying in a triangular space, of which the base was uppermost, one in the left side of the vertebral column of the right fœtus, and nourished by the blood of the right heart; the other, on the right side of the spine of the left fœtus, and nourished by the left heart. A very small diaphragm bounded this small cavity, which muscle was attached posteriorly to the septum, which divided the two thoracic cavities; and its fibres were continuous to those of the other diaphragm, or at least in such a state of contiguity as to offer no apparent separation, except what was marked by the septum above described. This would have been an important circumstance, as regards the performance of the function of respiration, had the monster lived. In the posterior abdomen, there was the small liver, without any insertion of the umbilical vein or other ligament into its concave surface. The other viscera of the abdomen were imperfectly developed. Two small bodies covered with fat, spoken of above, were the kidneys,—the intestines were small, and empty, except the ilium, in which meconium was found, and which terminated in the cœcum of the anterior cavity, so that the small intestines were double, and the large single. The large intestines terminated in the opening in the raphe, already described as affording the only trace of an anus.

All the other viscera and parts of the body were as normal in structure, and in the same physiological condition as those of any healthy and well developed fœtus at the full time.—*London and Ed. Journal Med. Science—from Gazetta Medica di Milano*, January, 1844.

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

2. *On the Preparation and Therapeutic Employment of Valerianate of Zinc.* By MM. Muratori and Cerulli.—This new remedy is much employed in Italy in nervous diseases, and appears to be a remedy of sure efficacy in that class of cases, and a valuable addition to our means of treating them. Its formation is not difficult, if only we have previously obtained its two elements in a state of purity. Let a quantity of hydrated protoxide of zinc, sufficient to saturate the acid, be gradually added to a quantity of valerianic acid. Heat favors the combination. Then pour the solution of the salt into a porcelain vessel, adding a small quantity of protoxide of zinc to neutralize any uncombined acid. Concentrate the solution by evaporation, and a white crust of valerianate of zinc will form on the surface, which is to be removed as it forms, and after being dried, put into a close phial. M. Muratori has obtained the salt in another way, by the double decomposition of sulphate of zinc and valerianate of lime: we thus obtain a solution of valerianate of zinc, sulphate of lime being thrown down. The fluid is then concentrated. M. Cerulli treats of the practical applications of the medicine. In three cases of supra-orbital and infra-orbital neuralgia, a cure has been obtained by giving it doses of one and a half grains daily, divided into two pills, and taken at the moment of the accession of the paroxysm. In one case, the cure was complete in thirty days; in forty, in another; and in fifty, in the third.—*Ibid., from Gazette Médicale de Paris*, Jan., 1844.

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3. *Veratria Ointment and Acetate of Veratria.*—Veratria made into an ointment with lard (3–10 parts of veratria to 400 parts lard) has been used for many years by Calvé and other physicians at Montpellier, with the best effects, in all forms of neuralgia. Sauvan, the apothecary, remarked that an ointment of veratria, prepared with rancid fat, was more potent, and attributed this to the soluble (*acetate*) *salt* of veratria, which was formed by the liberated acid. The veratria is dissolved by the acetic acid; at the same time, a small quantity of an oily substance, which is colored reddish-brown by nitric acid, is separated; and on evaporation a gummy, readily soluble salt, of a slightly bitter taste, is obtained, but more powerful than the pure veratria which has been treated with æther. It will consequently be better to make the ointment of *acetate of veratria and fresh lard* in small quantity, than to make the uncertain effect of the rancid fat.—*Ibid., from Pharm. Central. Blatt.*, Jan. 31, 1844; and *Chemist.*

[Turnbull's veratria ointment is composed of veratria, ʒss; olive oil, ʒi; and prepared lard ℥i. We have sometimes found this unnecessarily strong, and therefore generally begin with prescribing from gr. xv to gr. xx, to the ℥i. In place of the olive oil and lard, cold cream may be substituted in private practice.]

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4. *Large doses of Nitrate of Potash, and Sulphate of Quinine in Rheumatism.*—Dr. Bennett traces back the exhibition of large doses of nitrate of potash in the treatment of rheumatism, to the middle of the last century, when it was employed by Dr. Brocklesby, and other physicians, who gave as much as one or two ounces in the course of four-and-twenty hours. It has since been occasionally administered by several Italian and French physicians, and the practice was afterwards revived by M. Gendrin, who was followed by M. Martin Solon. The cases in which Dr. Bennett has found the nitrate of potash to be the most successful, are those of acute rheumatic fever; in chronic rheumatism, it appears to be of little avail. M. Gendrin generally begins with four drachms in the twenty-four hours with an adult female, and six drachms with an adult male, and rapidly increases the dose to eight, ten, or twelve drachms, seldom carrying it further. The nitre must be given dissolved in a large quantity of weak lemonade, or barley-water, properly sweetened, in the proportion of about four drachms of nitre to a pint and a half of gruel. This solution should be the only beverage, to ensure its being drank by the patient. There is great tolerance of it in the great majority of cases, when thus administered. Sometimes, however, the ingestion of the solution at

first occasions slight vomiting, but this Dr. Bennett has always observed soon to give way on merely continuing its use. M. Martin Solon states, that in these cases he has found that the addition of a little syrup of poppies effectually arrests the vomiting. During the first twenty-four or thirty-six hours, very little change is produced in the state of the patient; but generally speaking, about that time, sometimes a little later, the pulse diminishes in strength and in number, and that without any perceptible change in the patient's condition. M. Martin Solon says that the quantity of the urine is seldom, if ever increased, but Dr. Bennett has seen many cases in which the renal secretion has been decidedly increased. Abundant diaphoresis occasionally sets in on the second or third day, which, however, is not regarded by M. Solon as the effect of the remedy, but as a symptom of the disease. He believes that nitre acts merely as a sedative on the circulation. Dr. Bennett agrees in the belief in the sedative action of the nitre, but also considers its influence on the secretion of the kidneys and skin of service in the removal of the disease. As the general febrile symptoms subside, the local inflammation also diminishes, and if the ingestion of the salt is continued, there is scarcely ever any relapse. A cure is generally completed by the tenth or twelfth day, but the tongue almost always continues white and loaded, and the appetite bad, as long as the nitre is administered. M. Martin Solon has analysed the urine of patients to whom nitrate of potash has been largely administered, and he states that he has always found all the salt he has given in that secretion. Cases occasionally occur in which nitre does not produce any effect whatever, the disease continuing to progress, or, at least, not diminishing under its influence If such be the case after the medicine has been given for four or five days, it must be changed. Heart disease has been very rare in cases of rheumatism treated by the exhibition of large doses of nitre. Dr. Bennett saw the sulphate of quinine exhibited in the practice of M. Emery, at the St. Louis hospital, in large doses, such as from fifteen to forty-five grains in the twenty-four hours, even until, in a large proportion of the cases, toxic effects were produced; and yet no benefit was derived, the disease continued to make progress, as if nothing had been done. The same conclusion has also been arrived at by M. Monneret, who also reports unfavorably of the treatment of rheumatism by nitrate of potash.—*Medical Times.*

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5. *Veratria in Facial Neuralgia.*—Dr. Le Calvé cites two severe cases of this painful disorder, which were entirely cured by frictions with veratria ointment. The first is that of a person employed as inspector of a telegraph, who, having exposed himself for half an hour to a very cold air, was a few minutes after seized with violent pains. They proceeded from the frontal branch of the ophthalmic nerve and radiated over the temple; the eye was injected, and there was considerable spasm of the eyelid, and dread of light. Dr. Le Calvé immediately prescribed the veratria ointment. After the first friction, at the end of a few seconds, the pains ceased with exceeding rapidity. The patient thought himself cured, and was soon asleep. At two in the afternon a fresh attack came on, which yielded to a friction continued for four minutes. In the evening a preventive friction was made, and the patient passed an excellent night. The next day, about six in the morning, the pains re-appeared; but this time they proceeded from the superior maxillary nerve, at the point where it issues from the infra-orbital foramen, and thence they spread rapidly to the posterior and superior dental branches. A friction which lasted five minutes caused this attack to disappear. It was followed by a few others which always yielded to the same means. From this period, for more than a year, the neuralgia has not re-appeared. The other case was that of a merchant's clerk, about forty-one years of age, of sanguine temperament, who was seized six days after a journey, during which he had exposed himself all night at the coach window, with a violent pain proceeding from the frontal branch of the ophthalmic, and radiating over the temple and the whole of the right side of the back part of the head. Dr. Le Calvé found his patient in violent agitation, and uttering piercing shrieks. The right conjunctiva was much injected, the eye was suffused with burning tears, and the dread of light was extreme. There was also a lancinating pain at

the bottom of the orbit. The veratria ointment was immediately applied, and the pain yielded to a friction which lasted sixty-two seconds. At two in the morning a fresh paroxysm occurred, which yielded like the former to a friction of two minutes. Fifteen months have elapsed without any return of the neuralgia. In the preparation of the ointment, Dr. Le Calvé gives the preference to rancid lard, as it favors the formation, by its acidity, of acetate of veratria.—*Ib.*

6. *Hydrophobia treated by the Poison of the Viper.*—Prince Louis Bonaparte has separated the active principle of the poison of the viper, and has named it *echnidnine*, and he proposes it as a remedy for hydrophobia. At the hospital of Santa Maria Nuova, at Florence, six vipers were made to bite a patient laboring under hydrophobia. Death took place, however, with all the symptoms of hydrophobia, without any of those which follow the bite of a viper having occurred. Prince Louis, however, thinks that the principle of the poison, freed from all other substances, might prove more efficacious if injected into the veins of a person labouring under hydrophobia.—*Ibid.*

7. *Large doses of Quinine in Epilepsy.*—M. Taroni mentions in the *Gazetta Medica di Milano* the case of a young woman who was the subject of epilepsy from fright. Failing other measures and the disease manifesting a marked periodicity, M. Taroni exhibited quinine in large doses, beginning with twenty grains daily, and gradually raising the quantity to forty grains, which were given daily for six days, after which the dose was gradually diminished. During all this while the cure was progressive, and was finally accomplished.—*Ibid.*

8. *Prophylactic Remedy against Ptyalism.*—Dr. Schoepf, Professor of the University of Pesth, recommends the following tooth-powder, while administering mercury, in order to prevent salivation taking place. R. Pulv. alumin. exsiccat, ℈ij., pulv. cinchon. ℥j. m. To be applied by means of a soft brush morning and evening.—*Ibid.*

9. *Creosote, a good Application to Burns.*—Creosote is one of the most valuable of those remedies which the ancient writers designated as *incarnatives ; i. e.* promoting cicatrization. M. *Mascharpa* has drawn the attention of his countrymen (Gazetta Medica di Milano) to its excellent effects in this respect, as an application to many ulcers. He has used it also in several cases of burns with the most satisfactory results : it soothes the pain of the injury at the time, and accelerates the subsequent progress of the cure. The best mode of using it is in the form of lotion,—made by adding 20 or 30 drops of it to two or three ounces of water, and applied with pledgets of linen to the injured surface.

(The London Pharmacopœia, in its last edition, contains an "Unguentum Creosoti," prepared with half a drachm of the oil to an ounce of lard ; it is applicable for the same purpose as the solution of the oil in water.)—*Med. Chir. Review, for July*, 1844.

10. *Ammonia in Delirium Tremens.*—In one of the recent German Journals, we find a paper by a Dr. *Scharn* on the subject of this troublesome and distressing malady. The learned doctor having experienced no little disappointment from the use of the remedies in general use, and conceiving that, as the disease is nothing else but intoxication arrived at the period of its *apogee*, it should be treated by the very same means which are known to be most serviceable against the latter, had recourse to the employment of Ammonia, in the form of the pyro-oleaginous solution, or of the Succinate of the alkali. By means of this very simple and innocuous remedy he has succeeded, he assures us, in curing a great number of very severe cases of the disease.

It deserves notice that M. *Brachet*, also of Lyons—a gentleman whose opinions are justly entitled to consideration—has recently recommended the same remedy, Ammonia, in the treatment of delirium tremens.

(Ammonia by itself will rarely suffice to subdue the excitement and allay the restlessness of this neurosis : opium must almost always be associated with it.

We have often used, with good effect, the Ammoniated Tincture of Valerian and the Liquor Opii Sedativus—not forgetting the application, at the same time, of warmth to the feet, and of cooling spirituous lotions to the head. When symptoms of febrile or inflammatory irritation are present, it may be necessary to resort to leeching, and the administration of effervescing saline draughts with Antimonial Wine.)—*Ibid.*

PATHOLOGICAL, THERAPEUTICAL, AND OPERATIVE SURGERY.

11. *Trephining in Injuries of the Head.*—Dr. Laurie and Dr. King, in a paper published in the *London and Edinburgh Medical Journal*, give the following rules for the operation of trephining in injuries of the head, when there are present profound coma, paralysis, and other symptoms of severe cerebral lesion, as the most rational, and best supported by experience. 1st. When the shock has passed off, and the patient is in a condition to bear the operation, we should operate where the state of the bone is such as would warrant interference in mild and less urgent cases. In other words, symptoms of severe compression should not prevent us from operating in those cases in which the state of the bone, irrespective of cerebral symptoms, seems to warrant the operation, although our hope of benefit from the operation is very slight. In such cases, we ought not to expect that removal of depressed or comminuted bone will take with it the symptoms of compression ; all we can look for is, that it will render the injury less complicated by removing an obvious source of irritation. 2dly. Where we have good grounds to suspect extravasation, we operate to give vent to the offending fluids ; here, also, our hope of benefit from the trephine is very slight. 3dly. In all other cases of this class of injuries, they think it good surgery not to interfere, and it appears to them that nearly the same rules apply to those cases in which symptoms of concussion are united with compound fracture. If the state of the bone *per se* demand interference, we ought to operate, to take away a source of irritation, not in the hope of removing the symptoms of concussion. In all other cases complicated with concussion, we ought not to interfere. Dr. Laurie and Dr. King express their opinion strongly relatively to the use of the trephine ; they say that it would not have been greatly to the disadvantage of the patients admitted into the Glasgow Infirmary if a trephine had never found its way within its walls. Like all other operations, however, it is too often tried as a forlorn hope in hopeless cases ; and, in the more favorable, is delayed until the proper period for its performance has passed. They believe that there are not many cases in which it can do good ; but, if these were but properly selected, and promptly and effectually operated on, statistics would show fewer operations, and not only relatively, but absolutely, more recoveries.—*Medical Times.*

12. *Remove the whole of an Organ affected with Malignant Diseases.*—If there be a scirrhous tumor imbedded in the gland of the breast, and you remove the tumor, together with the part of the breast in which it is situated, leaving the remainder of the breast, according to my experience, the disease is certain to return ; and this corresponds to a rule which I think applies to all cases of malignant disease—that is, that you have no security against the return of the disease unless you remove the whole of the organ in which it is seated. For instance, if there be fungus hæmatoides of the bone of the leg, the patient may have some chance if you amputate the thigh above the knee, but none if you cut through the tibia below the knee. If there be malignant disease of the femur, you have very little chance at all, unless you think it expedient to take out the thigh-bone at the hip-joint. I say, therefore, in cases of scirrhous tumor of the breast, if you perform the operation at all, where the tumor is imbedded in the breast, you must remove the whole of the organ. You may imagine that this is a thing very easy to be done, but you will not find it so in reality ; for, in amputating the breast, in a thin person, you will be very apt, if you are not extremely careful, to leave a small slice of the gland of the breast adhering to the skin, and I have no doubt that this small portion may, in some

cases, form the nidus of future diseases. The color of the gland of the breast varies little from that of the surrounding adeps, the hemorrhage causes confusion, and you must be careful, in the dissection, to keep the knife near the skin, not near the breast. But, in addition to this, in every case when you have taken out the tumor, you should examine the surface, and see whether every part you have removed is covered by healthy adeps. If it be not, look on the middle of the flap of the skin, and see whether any small portion of the breast has been allowed to remain there.—*Lancet*, Feb. 3, 1844.

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13. *Case of Fatal Hemorrhage, from Perforation of the Arch of the Aorta, by False Teeth impacted in the Œsophagus.* By James Duncan, M. D., Surgeon to the Royal Infirmary of Edinburgh.—A young man, aged twenty-two, a dentist's workman, having lost his two front teeth by an accident, supplied the deficiency by a couple of artificial teeth, secured on a frame in the usual way. He sometimes slept with these teeth in his mouth. On the 28th of February last they were missing in the morning, and the young man complaining of pain and difficulty of swallowing, he applied to Mr. Syme, who with a probang detected a foreign body in the œsophagus, much beyond the reach of the ordinary forceps used for extracting foreign bodies from the gullet. The patient was removed to the infirmary, and attempts were made to entangle the foreign body in a skein of thread connected with the probang, but in vain. By and by the pain subsided, and the patient left the hospital in the evening of the ninth day, March 8th. Next morning, Dr. Duncan was hastily summoned to see him at home. In rising from bed and crossing the room, he had become suddenly faint and giddy, and had vomited a mouthful of blood. He was immediately removed to bed, and complained of a feeling of great weakness, and of some slight difficulty of breathing. His face was pale, and the skin rather cold, but the pulse was of moderately good strength. From his description of what had taken place, I was led to believe that the foreign body had been dislodged from its situation, and that it was possibly within reach of the forceps, with which I had provided myself. I accordingly requested him to sit up by the side of his bed, to enable me to make the necessary examination. This he did with ease, and without much assistance, expressing great anxiety to have something done to relieve him. The act of depressing the tongue, to enable me to introduce the forceps, produced vomiting, and a mouthful of dark fœtid blood was discharged. This was immediately followed by another, but much larger quantity of fluid of the same description, perhaps about eight or ten ounces, and the false teeth were heard to rattle against the vessel into which it was received. The patient was immediately aware of this, and his friends were overjoyed at what had taken place. Another mouthful of the same fluid was then ejected: an interval of a few seconds elapsed, and then a mouthful of bright arterial blood was discharged; a second and a third followed, the lips became livid, and the pulse at the wrist ceased, the patient gave one or two convulsive sobs, and expired.

An inspection of the body was readily obtained from the friends. The pharynx, the œsophagus, and stomach, along with the carotids, subclavians, and arch of the aorta, were removed entire, a ligature having been previously thrown around the duodenum to prevent the escape of the blood which had accumulated in the stomach, and so enable us to form an estimate of the quantity which had been lost. The œsophagus, stomach, and duodenum, were found distended with pretty bright arterial blood. The quantity could not be measured; but, in the opinion of those present at the examination, there could not have been less than eight or ten pounds. The pharynx and œsophagus were laid open by an incision posteriorly, carried as low as the cardiac orifice of the stomach. About 4½ inches from the rima glottidis there was an ulcerated perforation of the interior part of the œsophagus, of about ¾ths of an inch in length, and three lines in breadth, passing obliquely upward from the right to the left side. The edges of the perforation were rounded, and there was considerable surrounding injection of the mucous membrane. By this opening the probe could be readily passed into the aorta; but the latter vessel was not laid open at the time, it being thought better to immerse it for a day or two in spirits before doing so. On laying open the aorta subsequently, a perforation of about the size of a large crow-quill was found about half an inch below the origin of the left subclavian artery. The opening was irregular in form, the edges everted, and at the lower part there was a pretty firm adherent coagulum. There was little or no vascular injection around this opening. The artery was otherwise perfectly healthy.—*Dub. Med. Press, from Northern Journal.*

14. *Statistics of Fractures.*—In our January Number, Mr. Lyon gave an interesting statistical account of the cases of fractures which had been treated in the Glasgow Royal Infirmary by him; the following table shows the number of fractures admitted into the London Hospital during the year 1843:—

	In-Patients.	Out-Patients.	Total.
Skull,	14	—	14
Face,	14	4	18
Spine,	4	—	4
Ribs,	115	42	157
Pelvis,	5	—	5
Thigh,	56	4	60
Patella,	14	1	15
Leg,	150	6	156
Foot,	24	2	26
Shoulder-bone,	5	10	15
Collar-bone,	12	104	116
Arm,	32	52	84
Fore-arm,	18	138	156
Hand,	18	55	72
Total,	481	418	899

24 of the 481 in-patients died, but we are not informed to what class the fatal cases belonged.—*London and Edin. Month. Jour.*—Abridged from *the London Med. Gazette* for March 1, 1844.

OBSTETRICS AND DISEASES OF FEMALES.

15. *Lactation, its Influence on Conception.*—Dr. Loudon, in a work on the law of population and subsistence, propounds the theory that the laws of nature require lactation to be prolonged for three years, and expresses an opinion that the antagonism between the uterus and mammæ is so great as usually to prevent conception in women who have infants at the breast. This opinion, however, does not accord with the facts stated by Mr. Roberton, and is even more decidedly at variance with the results arived at by Dr. Laycock. Dr. Laycock states that 135 married women yielded 209 pregnancies during 766 lactations, or 1 pregnancy in 3·66 lactations, or 27 per cent. Those 209 pregnancies occurred in 76 females, that is to say 56 per cent. became pregnant while suckling; but in 30 of these pregnancy under these circumstances occurred only once. If, therefore, they be deducted, there remain 46, or 33·9 per cent., or nearly 1 in 3 who became pregnant on more than one occasion while suckling; and 19 of these, or 1 in 7, had always (after their first pregnancy) conceived while suckling.—*From the British and Foreign Medical Review, April*, 1844.

16. *Occlusion and Rigidity of the Cervix Uteri.*—Dr. Ashwell has made some valuable practical remarks on *Occlusion and Rigidity of the Cervix Uteri* as an impediment to labor, and has related cases illustrative of his views. He dissents from the opinion of those who imagine that in many instances of the alleged closure of the os uteri, the practitioner was deceived by an unusual degree of obliquity of the uterus placing the orifice out of reach; and states that he has never met with any case in which labor was seriously protracted by obliquity of the womb. He advocates the early employment of mechanical means to

re-open the occluded os, and thinks that, unless its situation be clearly indicated by some marked depression and thinning in the uterine wall, incision is far preferable to any attempt at forcing a passage by the use of a catheter, the finger, &c. He regards the hazard of extensive laceration of the womb following such incisions as an imaginary danger; and therefore in cases where, though the os uteri is not occluded, both it and the cervix are rigid and undilatable, and continue so after the employment of venesection, and the administration of antimony and opium, he conceives incision to be far preferable to any attempt at artificial dilatation.—*Ibid.*

17. *Cæsarean Section after Death.*—On the 23d of August, 1843, Dr. Loweg, of Verl, was called to see a female patient who was pregnant, and who had been ill for a long time; she expired shortly after the doctor's arrival, and being informed of her pregnancy he proceeded at once to perform the Cæsarean Section, making his incision along the linea alba, and pursuing in other respects the usual course. As soon as the child and placenta were removed, the operator endeavored in vain to induce the contraction of the womb by irritating its internal surface. A small quantity of warm venous blood was discharged. When removed the child appeared to be quite dead; it was of full term, perfectly fresh, and had evidently lived up to the period of its mother's death; it was placed in a bath with the placenta still attached: but this latter was soon after removed, and recourse had to insufflations of air. At the expiration of a few minutes the pulsations of the heart became perceptible, and shortly after respiration was fully established.

The child continued to live; it was strong and healthy three months after its removal from the womb, when it was brought to Dr. Loweg for his advice for some slight eruption under the arms and behind the articulations. He subsequently died, but it is not known of what disease.—*L'Abeille Medicale.*

18. *A Remarkable Abortion.* By Dr. Bunde, of Fredrikssund.—The infant, a boy, was born with all the small intestines spread over his belly. It appeared that the thin membrane which had encompassed them like a sac (a prolongation of the extended peritoneum), had been torn during delivery. The umbilical opening, whence the intestine issued, was the size of a shilling, and as several of the bowels were adhering to it, they could not be replaced. The child lived twenty-eight hours. On dissection it was discovered that there was no room for the bowels in the abdomen, because all the other organs were preternaturally large. The portion of the navel-string which had passed through the sac was very thin, but near the placenta it was an inch thick.—*Medical Gazette, from Oppenheim's Zeitschrift*, Feb. 1844, p. 254.

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

19. *Antidotes of Corrosive Sublimate, Copper, Lead, and Arsenic.*—By MM. Bouchardat and Sandras.—By means of numerous experiments, first made in the laboratory and then repeated on dogs, MM. Bouchardat and Sandras have arrived at many interesting results relative to the antidotes of corrosive sublimate, copper, lead, and arsenic. All these are detailed at length in their long papers on the subject. Their conclusions were, that the following substances may be regarded as antidotes, and employed as such in medicine:—

As antidotes for corrosive sublimate.—A mixture of zinc and iron filings; or powder of iron reduced by hydrogen; or the moist persulphuret of the hydrated peroxide of iron.

As antidotes for copper.—A mixture of zinc and iron filings; iron reduced by hydrogen; porphyrized iron; zinc filings; or the persulphuret of the hydrated peroxide of iron.

As an antidote for lead.—The moist persulphuret of the hydrated peroxide of iron.

As antidotes for arsenic.—The moist hydrated peroxide of iron; the dry hydrated peroxide of iron; and the moist persulphuret of the hydrated peroxide of iron.

These experienced chemists add the following reflections:—This last preparation, the persulphuret of the hydrated peroxide of iron, possesses this superior advantage over all the rest, that it changes the nature of all the four poisons above noticed, and is especially applicable in those cases where we have not had time to find which of the poisons has been taken. As to the manner of administering these antidotes, and the doses which it is necessary to administer, the simplest means appear the best. The powders of zinc and iron may be suspended in any electuary, or they may be swallowed in wafer paper. The magma of the hydrated preparations of iron may be swallowed in the form of jelly, in which they are procured from the druggists. Several draughts of lukewarm water ought to follow the antidote, and the fauces be tickled with a feather, to excite vomiting and the expulsion of the poison. The efforts at vomiting scatter more effectually over the stomach the antidote which is administered. As to dose, the experiments proved that 100 grains of the powder of iron or of zinc sufficed to prevent any bad effects from 15 grains of the acetate of copper. Fifteen drachms of the moist magma of the persulphuret were required to produce the same effect with the same dose (15 grains) of the acetate of copper. To act as an antidote to 4½ grains of arsenious acid, 15 drachms of the moist magma of the persulphuret, or 30 drachms of the moist hydrated peroxide of iron, or 20 drachms of the dry hydrated peroxide of iron, were required. With regard to the time when these antidotes can be administered with advantage, in so far as the acetate of copper is concerned, the lapse of 40 minutes from the time of swallowing the poison ought not be regarded as a sufficient reason for not administering the antidote; but arsenic is more quickly absorbed. Nevertheless, the antidote should always be administered, because, though it will not neutralize what is absorbed, it will prevent its further absorption by decomposing what remains in the stomach.—*Braithwaite's Retrospect, from Edinburgh Med. and Surg. Jour. April,* 1844, *p.* 497.

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20. *The Queen* v. *Trilloe.—Infanticide.*—There was strong evidence to prove that the child had been born alive, and that the prisoner had strangled it by fastening a handkerchief or some such thing round its throat, but it was clearly proved by Mr. Wood, the surgeon, who examined the body of the child, that it must have been strangled before it had been separated from the mother by the severance of the umbilical cord, and it was further stated by Mr. Wood, that a child has, after breathing fully, an independent circulation of its own, even while still attached to the mother by the umbilical cord, and that, in his judgment, the child had breathed fully after it had been wholly produced, and had, therefore, an independent circulation of its own, before and at the time it was strangled, and was then in a state to carry on a separate existence.

Judge Erskine, in summing up, said, "If you are satisfied that this child had been wholly produced from the body of the prisoner alive, and that the prisoner wilfully, and of her malice and aforethought, strangled the child after it had been so produced, and while it was alive, and while it had, according to the evidence of the surgeon, an independent circulation of its own, I am of opinion that the charge in the second and third counts of the indictment is made out against the prisoner, although the child, at the time it was so strangled, still remained attached to the mother by the navel string." Verdict—Guilty. The case was reserved by the judge for the opinion of the fifteen judges, who held the conviction right.—*Amer. Jour. of Med. Sci. from I. Carrington & Marsham's Nisi Prius Reports*, p. 650. T. R. B.

MISCELLANEA.

21. *Ergotism, or Serious Accidents occasioned by the Ingestion of Bread containing Flower of Ergot.*—The following instance of the poisoning of a whole family by ergot, is recorded by Dr. Bonjean, in a late number of the *Giornale delle scienze mediche.* In the commune of Beaufort, in Savoy, a whole family, consisting of the father, mother, and seven children, was suddenly taken ill.

They had eaten in the space of three days, eighteen pounds of bread, composed of four parts of oat, and one part of rye meal. The mother, a woman 45 years of age, was the first attacked. On the 18th November, 1843, she felt uncomfortable, having had one or two chills; on the day following, she was sleepy, felt stupid, and was troubled with general oppression; on the 20th, her feet and hands were stiff, cold, and spasmodically contracted—wholly inflexible, and there was an entire loss of sensation. Subsequently, the disease pursued its regular course, with occasional remissions. The father and the children, who were attacked shortly after the mother, were, during twelve hours, a prey to the most cruel agonies, and repeated and violent convulsions.

Notwithstanding their dreadful condition, no physician was called in, and they took neither medicine nor anything else, except a little warm water, and vinegar and water. In the course of three or four days, they all recovered. The following facts, which were subsequently ascertained, are possessed of great interest. The flour or meal with which the bread had been made contained eighty-six parts of rye and oatmeal, and sixteen parts of spurred rye. With 250 pounds of this mixture, 218 pounds of bread had been made. Thus the 18 pounds of bread, which were consumed by the family in three days, contained two pounds and a half of ergot, which shows that, during that period, each of the nine individuals had taken about 4½ ounces of spurred rye. Dr. Bonjean concludes, that the making and baking of the bread had so altered or weakened the poisonous qualities of the ergot, as to have rendered it incapable of destroying life, even in the enormous quantity in which it had been taken; for, from the result of forty experiments which he had made on animals, he feels himself justified in asserting, that had not such been the case, the quantity taken was so large as to have destroyed with certainty, every member of the family. The father of this family was more slightly affected than any of its other members; and the circumstance was attributed to his having partaken of the crust of the bread only; although the quantity consumed by him was greater than that eaten by the mother or either of the children.

22. *Fresh Vaccine Pustules discovered on the Cow.* Academy of Sciences, Paris, May 27th. Fresh Vaccine Lymph.—M. Magendie announced to the Academy that he had met with the cow-pox in a cow which belonged to him. The woman who milked it complained of having contracted the disease on the hands. He (M. Magendie) inspected the teats of the animal, and there recognized a number of elevations, and some crusts, which appeared to him to resemble the true cow-pox. In order to be certain about it, he requested Dr. Fiard, who was specially engaged in vaccinating, to assure him if it was really what he suspected it to be; and in case it was, to obtain some of the fluid, and transmit it to the hospital, where he vaccinated children every week. Dr. Fiard accordingly vaccinated many infants with it, and genuine vaccine pustules were developed, the fluid of which has again been successfully inoculated, and is now in full activity in the third *Arrondissement*, where any one is at liberty to obtain it.

M. Magendie also placed his cow, which still presented many pustules like the preceding ones, at the disposal of the Academy. Any physicians who regard the freshness of the vaccine lymph as indispensable to its preservative power, might now satisfy themselves and procure without difficulty a fluid, the origin of which could not be doubted by any one.

M. Fiard then read the result of the vaccinations which he had performed with this virus.

On the invitation of M. Magendie, he went on the 1st of May to Cernay. The teats of the cow then presented cicatrices of past irruptions, and some crusts covering the old pustules. An elevation of the vaccine character, of about the size of the end of the finger, alone existed on the back part of the udder, which he opened, and received therefrom a sanguinolent fluid in three tubes. He also procured the matter found under the crusts.

The following day (May 2d), being one of those for public vaccination, he met five of his colleagues, who inoculated the right arms of seven children with the ordinary vaccine lymph, whilst he inoculated the left arms of the same children with the matter which he had taken from the cow, making five punctures upon each.

On the 8th of May, the sixth day after the vaccinations, the children were examined. All the inoculations with the ordinary lymph had been successful. On the left arms of the six first, nothing was to be met with; on the seventh was a pustule having the perfect vaccine character, and resembling those on the right arm.

On the 11th of May, two other children and a woman were vaccinated with the fluid taken from this latter pustule, and on the 13th the success of these operations was proved. Many other children were inoculated with the same success, and now the fresh vaccine lymph is, in the third *Arrondissement* of this city, exclusively employed.—*Prov. Med. and Surg. Jour., July* 31, 1844.

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23. *Medical Honors.*—The promising young Vivisector and Physiologist, Dr. Longet, author of a valuable treatise on the nervous system, and Monsieur Pelletan, the well-known Chemist, have received the decoration of the legion of honor from the King of the French.

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24. *Singular Result of Insanity.*—In the Gazette des Tribunaux for August, 1843, is a notice of the case of a widow who became deranged in consequence of the death of her husband and attempted to kill herself. After this she often imagined she saw him in the street with other men. Becoming apparently better, she re-married. On fully recovering her mental powers, she disclaimed the connection, declaring that she supposed at the time, she was marrying her former husband.—*Amer. Jour. of Insanity, for July*, 1844.

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25. *Number of patients now in the Lunatic Asylums in the United States,*	2,561
Number of admissions the last year,	1,926
Recoveries during the year,	845
Deaths, including 98 said to have died at Blackwell's Island,	294

Ibid.

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26. *Statistics of Phthisis.*—Dr. Boyd gives the results of the examination of two hundred and six cases of pulmonary phthisis made within the last three years. Of these, 132 were males, and 74 females; the respective ages were,—under 11 years, 18 males, 9 females—from 17 to 60, 93 males, 50 females—60 and upwards, 21 males, 15 females; the males thus exceeding the females in the proportion of 17 to 10. No case of phthisis occurred between the ages of 11 and 17 years. The period of life most obnoxious to the disease has been from 30 to 50 years, and the period most exempt under 20 years, in both sexes. The average duration of life in males, was 39.1-12th years; in females, 39.7-12th years. The duration of illness was, on the average—among 56 male adults, 11.1-2 months; and among 20 female adults, 10 months, previous to admission from the first accession of cough. The duration of the disease from its commencement to its termination was about twelve months in both sexes. Of 49 male patients, the majority followed out-door employment; and of 16 female adults, the majority had in-door occupation. The very young and very old were inmates of the workhouse. The mortality has been greatest among males in May, among females in October; least among males in October, and among females in July; in both sexes least in the summer quarter. Tubercular cavities were found in the upper lobes in both lungs in one-half, in the left lung only in one-fifth, and in the right only in one-sixth; and tubercles without cavities in one-eighth of the cases. Where cavities and tubercles existed in both lungs, the left was usually the more diseased. The complications of phthisis were an increased quantity of fluid in the ventricles of the brain, congestion, or an exsanguineous state or softening of these organs, opacity of the arachnoid, apoplectic clot, tumors connected with the membranes, pleuritic adhesions, chronic pneumonia, acute pneumonia or pleuritis, gangrene of the lung, pneumo-thorax, scrophulous glands, patent foramen ovale, aneurism of the aorta, ulceration or extreme redness of the mucous membrane of the

intestines, enlarged and tuberculous mesenteric glands, fatty liver, tubercles or adherent peritoneum, tuberculous spleen, liver, kidneys, and renal capsules, waxy appearance of liver, tumors of the uterus, cancer of that organ, carcinomatous mass in the abdomen osseous matter in the mesentery, and ulceration of the cartilages of the knee-joint. Among the children there were also hæmoptysis, hooping-cough, measles, diarrhœa, and convulsions. Hæmoptysis, dropsy, paralysis, convulsions, and delirium, also occurred among the adults. *Medical Times*, June 29th, 1844.

27. *Necrology.*—Geoffrey St. Hilaire, the distinguished naturalist and philosopher, member of the Academy of Sciences, of the Academy of Medicine, and of the Egyptian Institute, Professor of the Faculty of Sciences, etc., is no more. His interment took place on the 22d of July, at the Cemetery of Père La Chaise; and it was done in that imposing manner, with which France alone knows how to honor her scientific men. The chief mourner was the distinguished son. The pall was supported by Baron Dupin, President of the Academy of Science, by Dr. Ferrus, the President of the Academy of Medicine, and by M. Chevreul, the Director of the Museum of Natural History. Among the members of the Institute, who were present, were Messrs. Arago, Elie de Beaumont, Ballanche, Conchy, David (d'Angers), Flourens, Victor Hugo, Jomard, Poncelet, etc. There were also in attendance the Professors at the Garden of Plants, a Deputation of the *Ecole Normale*, and many other distinguished *savants*, foreign and national. Having reached the cemetery, the workmen attached to the garden, unharnessed the hearse, and carried on their shoulders the remains of one they loved to his last abode. Speeches were now made by Messrs. Chevreul, Dumeril, Dumas, Serres, Pariset, Quinet, and Lakanat.

Dr. Hope, who has filled the chair of Chemistry in the University of Edinburgh with so much distinction, died on the 13th of June; and the vacancy thus created has been supplied by Dr. William Gregory of the University of Aberdeen.

28. *Antagonism of Pulmonary Phthisis and of Intermittent Fever.*—At the scientific congress of Lucca this subject was warmly discussed, without any satisfactory result having been arrived at. Dr. Salvagnoli presented a series of cases, accompanied by a statistical table, tending to show that in the Maremmi district of Tuscany, where intermittent fevers are very numerous, pulmonary phthisis and scrofula is but rarely met with. This pathological fact he endeavors to explain in the following manner:—If we admit (says he) a physiological antagonism between the liver and the lungs, which most physiologists do, it is easy to understand why phthisis should be rare where intermittent fever is common. Malaria acts principally on the abdominal viscera, increasing their action and volume. This increase of abdominal vitality diminishes the vital activity of the lungs, and thus prevents the development of tubercles in their tissue.

Dr. Renzi criticized Dr. Salvagnoli's statistical table, and remarked that in marshy districts the number of individuals who arrive at a favorable age for the development of pulmonary phthisis is relatively smaller than in more favored localities, and that consequently a calculation established only on the number of deaths from phthisis in such localities could not be exact. If the generations disappear during childhood,—if the medium age, which in towns is thirty years, is infinitely less in marshy districts, it becomes evident that more persons will die from the inflammatory diseases of early life, and fewer from chronic affections.

Dr. Griffa confirmed the observations of Dr. Salvagnoli respecting the rarity of phthisis in the Maremmi. Dr. Rino, on the contrary, maintained, from observations made at the Clinique of Pisa, that phthisis was common in marshy countries. These views were also supported by Dr. Turchetti, who asserted that in the marshy districts of Fucecchio and Bientina he had remarked the antagonism, which was described by Dr. Salvagnoli as existing in the Maremmi. Dr. Trompeo stated that he had great opportunities for observation in many localities in Piedmont, where malaria was kept up by the rice-grounds, and in Sardinia, where intermittents are extremely frequent and severe; and that in both these countries he had found phthisis very rare wherever intermittent fever was common.—*Bulletin of Medical Science*, August, 1844.

2.

American Medical Intelligence.

Boylston Medical Prize Questions.—The Boylston Medical Committee, appointed by the Corporation of Harvard University, consists of the following Physicians:

John C. Warren, M. D.	George Hayward, M. D.	Edward Reynolds, M. D.
Geo. C. Shattuck, M. D.	Enoch Hale, M. D.	Oliver W. Holmes, M. D.
Walter Channing, M. D.	John Ware, M. D.	

At the Annual Meeting of the Committee, August 2d, 1844, a premium of fifty dollars, or a Gold Medal of that value, was awarded to Samuel Forry, M. D., of New York, for the best dissertation on the following questions:

"To what extent is the human system protected from Small-pox by inoculation with the Cow-pox: is the protection increased by re-vaccination, and if so, under what circumstances?"

The other Boylston Premium, of the same value, was awarded to Henry J. Bigelow, M. D., of Boston, for the best dissertation on the following subject:

In what cases, and to what extent, is the division of muscles, tendons, or other parts, proper for the relief of deformity or lameness?"

The questions for 1845 are—

1st. Is Puerperal Fever ever contagious, and has it any connection with epidemic Erysipelas in its origin or mode of propagation?

2d. The influence of Climate on Longevity.

Dissertations on these subjects must be transmitted, post-paid, to John C. Warren, M. D., Boston, on or before the first Wednesday in April, 1845.

The following questions are proposed for 1846:

1st. The use of Water for the prevention and cure of disease.

2d. The nature and treatment of diseases of the Rectum.

Dissertations on these subjects must be transmitted as above, on or before the first Wednesday of April, 1846.

The author of the best dissertation on either of the above questions, will be entitled to a premium of sixty dollars, or a gold medal, at his option.

Each dissertation must be accompanied by a sealed packet, on which shall be written some device or sentence, and within shall be enclosed the author's name and residence. The same device or sentence is to be written on the dissertation to which the packet is attached.

All unsuccessful dissertations are deposited with the Secretary, from whom they may be obtained, with the sealed packet unopened, if called for within one year after they have been received.

By an order adopted in 1826, the Secretary was directed to publish annually the following votes, viz:

1st. That the Board do not consider themselves as approving the doctrines contained in any of the dissertations to which the premiums may be adjudged.

2d. That in case of the publication of a successful dissertation, the author be considered as bound to print the above vote in connection therewith.

Boston, Aug. 3, 1844. OLIVER W. HOLMES, *Sec'y.*

Weber's Anatomical Atlas.—Although the first number of this work has not yet been issued, yet fully one-third of it is now completed. Mr. Endicott, the undertaker of this great enterprise, is determined to render it worthy of his reputation as an artist; and as regards the execution of the plates now finished, we are warranted in pronouncing them far superior to the original. The first number will be issued very soon, and its successors will follow, punctually, at the intervals stated in the prospectus. We are the more particular in mentioning this fact, as some persons, from past experience, might be deterred from subscribing, under the fear that the work, after the issue of one or two numbers, might, if not extensively patronized, be discontinued.

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Velpeau's Surgery, translated by Dr. P. S. Townsend, with Notes by Prof. Valentine Mott.—The first volume of this work, which has excited the highest expectations, is on the eve of publication, as it will very probably appear simultaneously with this number of the Journal. From a slight examination of the pages, as they passed through the press, we were highly gratified with the labors bestowed on them both by the translator and by Prof. Mott. We are warranted in the belief, that the work will prove highly honorable to all parties concerned.

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Venerableness of the Boston Medical and Surgical Journal.—We, who have scarcely yet emerged from our editorial swaddling-bands, cannot but feel the respect due to the dignified age of our Boston brother, who has just entered upon the *thirty-first* volume of his periodical. May he live long enough to be enabled to usher into existence a progeny ten-fold more numerous.

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An Error corrected relative to the Pennsylvania Hospital.

Mr. Editor:—In Dr. Lee's paper on Dietaries, published in the May number of the Journal at page 359, his comparative statement between this institution and the New-York Hospital, gives the latter the credit of furnishing its patients with "a much more liberal allowance of milk than the former;" and that, "while the Philadelphians have allowed their 886 patients but $4,50 worth of *beer and cider, no wine, brandy or other liquors*, the more generous New-Yorkers have dealt out 297 dozen of porter (3,564 bottles), and $158,30 worth of wines and liquors," &c.

In regard to the article of milk the Doctor's error is quite excusable, inasmuch as the "Annual Report" only states the quantity *purchased*, and omits the important fact that we keep 8 *fine cows* which are fed and tended in the best manner, and yield at the lowest calculation 50 quarts of milk per day, which added to 864 quarts purchased, make 19,114 per annum, or an average of 21½ quarts to each patient treated during the year, while the average in the New York Hospital is only 15.

The error respecting porter, wines and liquors, is another affair. Had the Doctor examined critically the "Annual Report," he would have found the following items, under the head of "Medical Department," viz. "Wine 45½ gallons $65,06, spirits" (which includes brandy, gin, &c.) "30 gallons $38,50, porter $135,78" (1860 bottles): the comparison therefore would stand thus

Porter	New York Hospital	an average of	1·7 bottle	for each	patient.
	Pennsylvania do	do	2·1 do	do	do
Wines & Liquors	New York Hospital	do	7·54 cts.	do	do
	Pennsylvania do	do	11·68 do	do	do

Hence it would seem that even those patients who are not "teetotalers," had they their choice to make, might be induced to give us a fair proportion of their custom.

Respectfully yours,

W. R. Clapp, Clerk and Librarian.

Pennsylvania Hospital, 7 mo. 12, 1844.

Leprosy, Greek Elephantiasis, or something else, prevailing in the Province of New-Brunswick, near the Bay Chaleur.—We are indebted to Dr. Wotherspoon, of the United States Army, for two newspapers containing an account of this terror-inspiring disorder. As the Doctor is stationed at Fort Kent, Maine, which is 200 miles from the scene of terror, he is unable to speak from personal knowledge; and the columns of a newspaper are not often redolent with medical philosophy. The rumors that are afloat, exaggerated by fear and terror, we need not relate. The Legislature of the Province has thought the matter of sufficient importance to send a medical committee to the "infected district" to investigate the cause and nature of this *nova pestis;* and, as was to have been expected, the *medicos* came back divided in opinion. By one party, it was contended that the disease is highly contagious—the *tuberculous leprosy of the middle ages;* while the other side alleged, that it is a non-contagious scrofulous affection, being the result of the combined agency of bad diet and vicious habits.

The following are the accounts contained in the two papers:

"Disease at Tracadie and Neguac.—In compliance with the instructions from the Lieutenant Governor, a Commission, consisting of Drs. Key, Skene, Toldarvy, and Gordon, and the Rev. Mr. La France, left Chatham on the morning of Thursday last, for the purpose of investigating the nature, origin, and extent of the frightful and loathsome disease, now existing in Neguac, Tracadie, and Tabisintac. They returned on Saturday evening, and from them we gather the following information.

"The disease is the Greek Elephantiasis,—the Leprosy; not the Elephantiasis of the Arabians, but the Leprosy of the middle ages: the Lepre Tuberculeuse of the French, or Tubercular Leprosy, which raged over nearly every district of Europe, from the tenth to the sixteenth century. It is the decided opinion of the gentlemen composing the commission, that the disease is contagious, and so far as they could ascertain, no person in the above districts, who contracted it, is ever cured. It is also their opinion, that it has no affinity to scrofula, and the idea, very prevalent, that it is owing to the poor diet of the French settlers, and their filthy habits generally, is not correct, for they found it existing in some of the cleanest dwellings, and most respectable families. It has spread very rapidly during the last year. They discovered upwards of twenty cases, all of which can be traced up to one source. They have every reason to suppose that there were a still greater number; but not having power to search, and the inhabitants showing a great disposition to withhold information, or to point out the parties laboring under the disease, they could not make so minute an inquiry, as they otherwise would have done, or as they were desirous of doing.

"The Legislature, we perceive, have voted the sum of £500, toward rendering relief to the parties. This may be considered by many persons a large grant, but when it is considered that the only effectual method to prevent the spreading of this most frightful malady, is to congregate all the parties laboring under it, in some building, which must be erected expressly for that purpose, where they must be clothed, fed, and taken care of—when all these things are considered, together with medical attendance and medicine necessary, the amount will rapidly disappear, and in a short period be found totally inadequate to carry out the intentions of the Legislature. We do not know of any other way likely to effect its total extinction.

"The subject is one of paramount importance. The disease is rapidly approaching our more densely populated districts—and is now only twenty-four miles from Chatham. We trust, therefore, the members of the Assembly will not hesitate, on hearing the report of the Commissioners, to enlarge the grant, and not be led away by the opinions of Drs. Earle and Thompson, as to the nature of the disease and its contagious properties. Whatever they decide on doing, ought speedily to be accomplished, for it may, in a short time, be beyond the power of human means to check its progress.

> "The gentlemen composing the commission went up the north-west this morning, having ascertained that some cases have broken out there."—*Miramichi Gleaner.*

> "*Disease in the County of Gloucester.*—Yesterday the House went into committee on the message of the Lieut. Governor, relative to a disease which at present exists in the above county, of a most disgusting and fatal character, and which, in the opinion of medical persons in that quarter, resembles the leprosy of the 17th century.
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> "It appeared from the documents which were read, that the disease made its appearance in 1824, since which seven persons have died of this loathsome malady, having lingered from three to five or six years in a most miserable condition; one of whom, who had been enclosed in a log-hut, and who was fed through a hole in the same, having died, as was supposed, insane; and such was the dread of persons, in consequence of the supposed infectious nature of the disease, that, in some cases, the overseers of the poor had to carry the unhappy creatures the supply of food which was necessary to support existence, and for the consumption of which they retained their natural desire and appetite.
>
> "That the disease is infectious would appear from the fact of persons having been attacked with it who had slept with each other; and, in one instance, a young man who had assisted in carrying a coffin containing the corpse of a person who had died with the disorder, and upon whose clothes some of the contents had oozed, subsequently caught the infection and died.
>
> "It appears further, that there are at the present twelve persons laboring under this disease in the county of Gloucester, and there are about the same number of cases on the other side of the line, which separates it from Northumberland; although there are probably other cases which are concealed, as a knowledge that a person has it excludes its victim from society.
>
> "Among the cases enumerated is that of a female who was shipwrecked at Caraquet, on her way to Quebec; and who afterwards returned to Chatham, where the disorder developed itself, and extended to two others of the family in which she resided, and to a child who was intimate there—all of whom died. In fact, the disorder invariably terminates fatally.
>
> "The reading the several documents connected with this subject created a strong sympathy in the House and compassion for the unhappy sufferers. Dr. Thompson, as did Dr. Earle, both gave it as their opinion that the disorder is not the leprosy. The former gave a very lucid account of the effects of the mode of living and the habits of the French people, among whom this disorder has appeared, which are filthy in the extreme, and which not only predisposes their system for the reception of this or any other scrofulous disorder, but renders it more difficult to cure; and he recommended that their habits of life and the food by which nature is sustained should be changed, and that, by education and amusement, the minds of those poor people might become elevated, and brought, with their bodies, into more healthy and vigorous action."

The London Medical Gazette for June 14th, contains a communication from one of this committee, Mr. A. S. Skene, Surgeon of the British Army. Having satisfied himself that the disease is *tubercular leprosy* or the *elephantiasis* of the Greeks, he quotes the definition of it given in Copland's Dictionary of Practical Medicine; and he then reports several of the nineteen cases that fell under his observation, with the view to show its identity with the *lepra tuberculosa.* He thus describes it:

> "Dusky-red or livid tubercles, of various sizes, on the face, ears and extremities; thickened or rugous state of the skin, diminution of its sensibility, and falling off of the hair, except that of the scalp; hoarse, nasal, or lost voice; ozæna; ulcerations of the surface, and extreme fœtor."
>
> "The first case of the disease is said to have occurred in 1817, in a married woman, which terminated fatally in 1829. Her husband took the disease three

or four years before her death, and died in 1831. Since then, the disease seems gradually to have extended itself. Only 12 patients have as yet been known to die of the disease, and in the fatal cases reported, death did not take place till six or eight years after the attack. In some cases but one in a family was affected, and in others there were more. Mr. S. supposes it has been communicated by hereditary taint and by contagion, though he thinks it is never likely to become epidemical. No *post-mortem* examinations have been made of those who have died. He knows of nothing peculiar in the climate, or the diet or habits of the people, which could be considered as contributing to the commencement or continuance of the disease. With regard to the treatment, we copy all the remarks made by him.

"This is either active, palliative, sanatory, or preventive. With regard to the two first, the commission did not feel authorized to offer any observation to the Government of New Brunswick; while in respect to the two latter, they unanimously recommended the erection of a lazaretto, strict seclusion of the lepers in this establishment, and legislative sanction for the removal of those patients who, while medical authorities were adjusting their differences, might introduce the seeds of a most loathsome malady into one of the most populous districts (Chatham) of this flourishing colony."

Health and Fecundity of the Region around Fort Kent, Maine.—These two highly interesting questions, both as regards the United States troops and the French Acadian population, are clearly illustrated by Dr. Wotherspoon, in the following extract from his letter, dated July 1:

> "During the last two months not one of the men has been confined to bed by sickness, even for a single day, and the same universal good health seems to prevail in the surrounding country. One is the more inclined to wonder at this, on seeing the crowds of little unvaccinated wretches that swarm around the door of every log hut, half clothed, and but poorly fed on sour black bread and potatoes. Nothing has astonished me so much as the large families that are found among the French inhabitants. Five adjoining married couples have had in all 40 children, of whom, 35 are living. A man immediately opposite, on the other side of the St. John, has 27 by two wives, the second of whom bore 14. Lareut Ferriaud, at Green River, has had 25 children by one wife—no abortions. Buonaventure Le Crog had 19 children in 18 years; and of these, 5 pair were twins. Pierre Richou has had 6 in 3 years, 3 pair twins; all now living at Shattaquoi, six miles below the fort. Mr. Webber, the present State Commissioner, mentioned that in one house he found a woman with 5 children under 3½ years, one twin and one triplet birth She was then a third time pregnant, her husband confidently expecting soon to be presented with another pair of the 'pretty prattlers.' I have had several females to apply for advice for a prolapsus uteri and leucorrhœa, induced by too rapid child-bearing, and by the habit which all the women around here have, of rising from the bed the second or third day, in order to attend to their accustomed household duties. Day before yesterday, a pretty little French woman consulted me on this account; on inquiry, I found that she had had five children in six years. I think that 'Ould Ireland' can hardly hold a candle to the Madawaski plantation in either the production of children or potatoes."

This law of extraordinary fecundity and of equally remarkable health, is not, however, in conformity to the law developed by statistics, which shows that the ratios of births and of deaths bear a direct relation.

Laws of New York relative to the Practice of Physic and Surgery.—As this is a subject of universal professional interest, and as we regard the report made at a special meeting of the Albany County Medical Society, on the 25th June last, to be characterized by views expressive of a proper and manly exposition of the real position of the profession relative to this question, and especially as the argument and facts are presented with a force and clearness highly creditable to the author of the report, we are induced, notwithstanding its length, to give it entire.

As all restrictions on the practice of medicine, in this State, are now removed by legislative enactment, it follows that the homeopath, the Thompsonian, the natural bone-setter, and the seventh son of a seventh son, all occupy the same legal equality with the graduated physician of the institutions endowed by our legislatures.

It is just as impossible to elevate in public estimation, by means of legal enactments, a body of unworthy men, as it is to depress a class of superior ones by the same mode; and hence, we see how much depends on each individual—how imperiously it is required of him to cultivate his mind assiduously; for, unless he maintains the level of the best educated classes, the dignity of the professional man is lost in the character of the tradesman, thus dragging down, so far as one individual can do it, the professional reputation of the whole body.

"The committee appointed at the last meeting of the Society to report as to the manner in which the law of last winter bears on the statutes regulating the practice of Physic and Surgery heretofore existing in this State, and how it affects the organization of the State and County Societies, and as to the course which it will be expedient for the society to pursue under the circumstances, reports as follows:—

"For the purpose of laying the whole subject before the Society, in an intelligible form, we present the following summary of the laws regulating the Practice of Medicine as they existed in this State previous to May 6, 1844.

"County and State Medical Societies were incorporated, and the terms of Admission into the County Society were prescribed by law.

"Members of the County Societies were the only licensed practitioners of Physic and Surgery.

"All unlicensed persons, except 'Botanic doctors,' were prohibited from practising under penalty of $25 for each offence. All unlicensed persons, without exception, were made incapable of enforcing by legal process the payment of compensation for services rendered to the sick.

"By the act of May 6, 1844, all unlicensed persons are freed from the penalty for practising, and the disability of collecting pay for their services. Besides this they are made liable to civil and criminal prosecutions for mal-practice, gross ignorance and immoral conduct.

"Previous to the passage of this act the law prescribed the mode of becoming a licensed practitioner of Medicine, and conferred on such, and on the Botanic doctors, the exclusive right to practice. Since the passage of this act, the law still prescribes the mode of becoming a licensed practitioner, but gives to all persons of whatever age or sex, or education, the right to practise, and to enforce the payment of compensation for their services.

"Hence, although the organization of the County and State Societies is left as before, it is no longer obligatory on those who practise Physic and Surgery to become members of the County Societies, nor to go through the course of study and the examination requisite for admission into those Societies. They have become voluntary associations, which give to their members the title of licensed practitioners, but confer on them no legal rights.

"Such is the operation of this act on the laws regulating Medical Practice.—To remove any doubts concerning its true construction, we affix to this report a letter from the Attorney-General, prepared in answer to a request from one of the Committee.

"We now proceed to the examination of the question, whether the passage of this act calls for any movement on the part of the Society. But first of all, it will be necessary to review the course of legislation in regard to Medical Practice, and to establish the principles on which such legislation ought to be founded.

"Seeing what important duties devolve upon the Physician, what weighty interests are confided to his skill and integrity, subject to no control but his own conscience, legislators have always recognized the propriety and necessity of providing men to assume those duties who could offer some guarantees of capacity and honesty, and of guarding the public against imposition by the ignorant and unprincipled. Hence laws have been enacted, having in view the two-fold object of raising up and organizing a body of competent Physicians, and of protecting the public against imposition.

"To accomplish the former of these objects, the profession has been organized by the establishment of County Societies, so that its members may readily be recognized by each other and by the public, may exercise a general supervision over each other, and co-operate to promote the common welfare.

"Provision has been made for Medical education by the establishment of schools liberally endowed, in which students may, at moderate expense, be taught the science and art of Medicine. A course of study has been prescribed through which candidates are required to pass before they can be admitted to an examination by which their qualifications are to be tested. After having accomplished this course of study and passed the examination, the student is admitted into the profession as one worthy of its honors and fitted to assume its duties.

"Thus are attained the first great objects of medical legislation. A body of physicians is created, presenting certain guarantees of capacity and character, and this body is organized so that its members may be readily recognized by the public. These objects and the means by which they are attained we all unite in commending.

"If any person, with these means of choosing, applies for medical aid to one who can offer no guarantees of proper qualifications, he is guilty of a gross imprudence; but it is at his own risk, and he has to suffer in his own person all the consequences. The law has protected him against imposition, but not against a foolish choice.

"It might be supposed, that when men have the choice before them of educated physicians, presenting evidence of their qualifications, and of others whose main titles seem to be their ignorance and impudence, they would not hesitate to have recourse to the former. But sad experience shows that this is far from being true. We find that men who conduct all their other affairs with prudence and discretion, are willing to abandon a medical attendant of tried skill and character, for any juggling mountebank whose pretensions would only excite a smile, were it not for the deplorable results to which they give rise.

"Struck with this sad spectacle of human credulity and folly in cases in which such important interests are involved, legislators have thought that it was not sufficient to provide educated physicians, and to give the public the means of recognizing them, but have passed laws prohibiting all but regular physicians from practising. These laws are founded on the assumption, that it would be so absurd to have recourse for medical aid to an ignorant person, when it is possible to procure the services of an educated physician, that those, who might be tempted to do so, must be treated as incompetent to manage their own concerns. To prevent them, therefore, from indulging in such folly, all irregular practice is prohibited under certain penalties.

"The laws for educating and organizing a body of physicians were intended to give men the means of acting prudently; the prohibitory laws were intended to compel men to act prudently.

"So long as public sentiment accords with this view of the legislator, the operation of these prohibitory laws is salutary; while only a few silly persons prefer to have recourse to men out of the profession for relief, it seems proper to protect them against their own bad judgment, just as minors and imbecile persons are not allowed to make contracts by which they might be swindled by knaves. But unfortunately a large portion of the public think that education and science are not necessary to qualify men for medical practice. Numerous sects have sprung up, pretending to cure diseases by various processes, more or less ridiculous, but all agreeing in this one point, that it is not necessary to pass through the regular course of studies required by law, but that there is a royal road to medical practice which renders such drudgery useless. These sects, absurd as their doctrines may be, have succeeded in gaining followers among the public, and the effect of these restrictive laws, if enforced, must be to prevent all their followers from procuring the kind of medical aid which they prefer. Besides, it must be remarked that those who are thus placed under Legislative tutelage, are not exclusively the ignorant or imbecile, but that they number in their ranks many persons of education and sagacity who manage all their other affairs with sufficient acuteness and discernment.

"However absurd the opinions and conduct of these men may appear to us, we have not, for that reason, the right to impose on them our ideas of wisdom. If, for example, a full grown man who is capable of managing his own business, chooses to call in, to reduce a dislocation, a natural bone-setter who avows that he has never seen a skeleton, in preference to a surgeon who has devoted himself to the study of such accidents, we may deplore his folly, and endeavor to persuade him to act more prudently, but we ought not to use compulsion either directly or indirectly. If his conduct is foolish, he alone suffers from it, and as we are not responsible for his folly, we have no right to prevent him from indulging in it.

"On this point we have the misfortune to differ with some for whose opinions we have great respect, and we wish to be well understood. None can be more deeply impressed than we are with the immense amount of mischief inflicted on the community by irregular practitioners of medicine. We feel indignant at the base deception they daily practise under our eyes, and we pity their dupes. We all alike agree in deploring the evil, but there is some difference of opinion as to the remedy. The experience of the past satisfies us that Legislative wisdom never can restrain individual folly; that all that legislation can do in such matters is to give all the means of knowing the character of those to whom they may apply, and thus enable them to act with a full knowledge of the circumstances, and leave the rest to each man's own wisdom and prudence.

"We are accustomed to apply this principle to other cases of a like nature. Absurd and mischievous religious systems sometimes spring up. We are pained to see men led away by vile superstitions, or fall victims to the arts of designing leaders, yet we do not attempt to put down such systems by law, because we do not think it right to impose our religious views upon others, and because we know that any such attempt would only serve to confirm them in error. So too in matters of ordinary business, the law protects men against imposition so far that if one, in making a bargain, is deceived by false representations, the law would give him redress; but if, with a full knowledge of the facts, one enters into a foolish bargain, he must abide by the consequences. There is no reason why the same principle should not be applied to medical practice.

"But even admitting that these restrictive laws are founded on principles of sound policy and justice, there is still one objection which is unanswerable. It is entirely impossible in this country to enforce them. For many years they have been in existence, and yet men have practised under our eyes, openly and avowedly in violation of them, and in no one instance has the penalty been enforced. As to the disability of recovering payment for their services by legal process, it has had quite as little influence, for we think it is altogether probable that botanic doctors and homeopaths and other quacks have been quite as well paid as the regular practitioners.

"The practical operation of these laws was rather favorable to the class of irregular practitioners. The penalty they imposed was never regarded; the disability of collecting debts afforded a pretext for demanding payment in advance, and gave to their demand the character of debts of honor. Besides this, they put it in the power of the quacks to raise a cry of persecution, and represent the regular profession as greedy monopolists, and thus excite some feeling in their favor among weak and credulous people. A clamor for the repeal of these laws was kept up for the purpose of advertising the system, rather than of obtaining any rights about which they really cared; and since the repeal has been obtained, they will have to devise some new plan to wriggle themselves into notice.

"It will be remarked, that in all our reasoning on this subject of these restrictive laws, we have considered them as designed for the good of the public and not of the profession. This is undoubtedly the only ground on which they can be defended. The object of those who enacted them, was to protect the public against the ignorance and rapacity of quacks, and not to protect the profession in a monopoly of practice to be enjoyed for the benefit of its members. If, in the repeal of these laws a wrong was committed, the public and not the profession must be considered the injured party.

"It behoves us neither to claim as a right nor to ask as a favor any exclusive privilege, which is opposed to, or which is not directly conducive to, the public good. If these restrictive laws are not called for from considerations of public safety, then there should be no opposition on our part to that repeal. It is certain, that no class of the community are so little liable to be injured by quacks as physicians who know how to avoid them.

"This point has been lost sight of in the discussions on the subject in the legislature and elsewhere, and we are anxious to bring it clearly in view, because it does not comport with the dignity of our profession to appear to be engaged in a selfish contest for privilege with the different bodies of quacks which infest the community.

"As the natural guardians of the public interests in such matters, it is incumbent on us to admonish the legislature, if we think they are acting ignorantly or rashly; but we must be careful to have it understood that in so doing, we are not defending our privileges against the rest of the public, but that we are defending the public against their own rashness and folly.

"To resume. We consider that the great end of legislation in medical practice should be to provide a body of competent physicians and to give the public the means of recognizing them, leaving to the prudence of individuals to choose discreetly; and that all attempts to coerce people to discretion are wrong in principle and unsuccessful in practice.

"We are now prepared to examine the question, whether, under the circumstances, any action of the Society is called for?

"We have expressed our view as regards the restrictive laws. Whatever difference of opinion may exist as regards the general policy of such laws, there is one point on which all must agree. It is utterly impossible to enforce them so long as they are not in accordance with public sentiment. We would therefore be exceedingly sorry to see the profession again entering into a contest with Thomsonians and other persons of that class, for the sake of restoring a law which we know beforehand cannot be executed, and which serves as a pretext for quacks of all kinds to raise a cry of persecution, and to represent the profession as made up of selfish monopolists—a contest in which defeat would be mortifying, and success would bring no real advantage.

"We are aware that much feeling has been excited in the profession by the repeal of the laws, but this is owing rather to the manner in which it was effected and the ground on which it was urged, than to the act itself. Although it was sustained by some proper reasons, yet a few senseless demagogues in the legislature, fit organs of the Quacks, whose cause they espoused, did not fail to seize that occasion to revile the whole body of Physicians, and to represent them as engaged in a struggle to maintain a monopoly of practice in their own hands. The profession was thus placed in a false position; it appeared to be fighting for its privileges against the Quacks; the interest of the public in the contest was kept out of view, and the result was hailed as a triumph of Quackery over the Medical profession.

"We hope that in future they will be allowed to enjoy their triumph without any interference on our part. We should be sorry to become engaged in a contest with ignoble adversaries for the benefit of a public which will always look upon our mediation with suspicion. Let the knaves and the dupes in future settle their accounts among themselves.

"As regards the laws regulating medical education and the organization of the profession, we do not know of any modification which would be desirable. The State and County Societies have all the powers necessary to enable the profession to act with unity and efficiency. What is still wanting here depends not on the legislature, but on ourselves. We ought to endeavor to infuse more spirit into our county societies, to have more frequent meetings, and to promote cordiality of feeling among the members. The rules of medical ethics should be scrupulously observed, and any violation of them promptly noticed by the Society.

"In the law of last winter an amendment was offered requiring unlicensed practitioners to express their true character by having the word "unlicensed" on their signs. This amendment, to which no sound objection could be made, since it could only serve to inform the public of the true character of those who offered their services, and which, if one-half was true of what was said in debate respecting the superiority of Indian doctors and homeopaths and steam doctors over the regular profession, would have conferred a real advantage on the unlicensed practitioners, was rejected. Although we think the amendment a good one, yet we should be sorry to go again before the Legislature to ask for its passage; and we think the same end might be attained if every County Society would publish in the newspapers semi-annual or quarterly lists of their members.

"Now that all restrictions on practice are removed, it will be practicable to raise the standard of admission into the County Societies without exciting any well-founded opposition. These societies are now voluntary associations, into which those who find the requirements too high need not enter. A well-matured plan, which would increase the amount of requisitions without putting it at a point unattainable at the present time, would, no doubt, be favorably received by the profession.

"We would, then, say, in conclusion, we have laws enough and good laws. Quackery must be suppressed not by legislation, but by enlightening the public as to its dangers. The dignity and respectability of our profession is to be promoted not by asking for legal privileges, but by an increase of individual zeal and a more cordial co-operation. It is a great error to suppose that the repeal of the restrictive laws puts the physician on a level with the quack and takes away the barrier which separated them. The barrier which effectually separates the two classes is formed by the higher attainments and honorable deportment of the members of the former, and this is the barrier which it depends on us to make higher and stronger. It is one which quackery will not surmount, and which no legislative enactment can break down.

"In accordance with these views, the committee offer the following resolution:—

"*Resolved,*—That in the opinion of this Society, it would not be conducive to the interest or respectability of the medical profession, at the present time, to apply to the Legislature for any alteration in the charters of the State or County Medical Societies; or any legislation on medical subjects whatever.

"THOMAS HUN,
"JOEL A. WING,
"MASON F. COGSWELL."

"The preceding report and resolution were unanimously adopted by the Society.

"STATE OF N. Y., *Attorney General's Office,*
Albany, June 12, 1844.

"JOEL WING, M. D.

"Dear Sir—In compliance with your request of this morning, I have examined the act entitled "An Act in relation to the practice of physic and surgery," passed May the 6th, 1844, for the purpose of ascertaining how far previous existing acts in relation to the same subject have been modified or affected thereby.

"By the 1st section of this act, § 22 of Art. 14, Tit. 7, part 1 of the Revised Statutes, which incapacitates persons not licensed according to law from enforcing by law the collection of any debt, arising from such practice, is expressly repealed: and all laws then existing inhibiting the collection of debts, by any person, whether licensed or not, for services rendered in the practice of physic and surgery, are swept from the Statute Book.

"The 2d and 3d sections of the same act repeal all existing laws, imposing any criminal prosecution or penalty for the practice of physic or surgery, without a license.

"The 4th section of the act subjects the unlicensed practitioner to the same civil liabilities for mal-practice as if he were a licensed physician.

"The 5th section provides that every person not being licensed, who shall practise or profess to practise physic or surgery, or who shall prescribe medicines or specifics for the sick, shall be deemed guilty of a misdemeanor, who, in any court having cognizance thereof, shall be convicted of gross ignorance, mal-practice, or immoral conduct.

"I have examined with much care the different acts regulating the practice of physic and surgery, including the provisions contained in the Revised Statutes, up to the present time. And I do not discover that the act under consideration, either expressly or by implication, modifies or repeals them in any other particular than as above stated. It simply cuts off all restraint to the practice of physic and surgery, by any person who will choose so to do, subjecting such persons to civil liabilities for mal-practice, and to a criminal prosecution for gross ignorance, mal-practice, or immoral conduct, at the same time giving power to such person to enforce by law payment for his services—leaving all other statutory provisions, not inconsistent with those modifications, untouched. All the provisions, therefore, regulating the practice of physic and surgery among licensed physicians, are still in force, although they may perhaps prove quite inefficient from the consideration that the great inducement to become so, may have been taken away by this act.

"With friendly consideration, your obedient servant,

"George P. Barker."

Dr. Valentine Mott and our Review of Pancoast's Operative Surgery.—The Medical Examiner.—In the extended and very favorable notice of Pancoast's Surgery, in our last No., it would appear that justice was not done on every side. It is scarcely necessary for us to say, that we give place to the following communication from Prof. Valentine Mott relative to certain operations on the lower jaw, with much pleasure:

New York, August 20, 1844.

"My dear Doctor—I observed an error in the review of Pancoast's Surgery, published in the last number of your Journal, which I know you will take pleasure in correcting.

"It is in relation to the operation upon the LOWER JAW. I claim for myself and my country, the first operation for Osteo-Sarcoma. It was original with me, as I never read or heard of anything of the kind in any country.

"You will find in the American Journal of the Medical Sciences an account of my first case, with a plate, some twenty or twenty-five years since. It was successful.

"Since that period I have performed many of them in various proportions.—Twice I have removed the disease on one side at the temporo-maxillary articulation.

"Since which date, many surgeons of our country and of Europe, have performed these operations.

"Very respectfully yours,

"VALENTINE MOTT."

"Dr. Samuel Forry."

As the opportunity thus presents itself, we will add, that a different sort of accusation has been made against us relative to this same review. Ay, kind reader, we have been verily accused of showing partiality to a Philadelphia author! It is said that we have spoken, in very favorable terms, of a book, the great mass of whose text has been drawn bodily from Velpeau, Malgaigne, and especially Bourgery; and that from the last, nineteen-twentieths of the lithographic illustrations have been taken!

What will the "*independent*" editor of the "Medical Examiner," now, think of our justice toward Philadelphia authors? By the way, we are truly sorry to see the Editor of that Journal work himself into such a passion, during the muggy dog-days, in consequence of some strictures of ours. He ought to bear in mind that he loses no opportunity, which his journal allows him every fortnight, to discharge his pop-gun at us, while we, as we have but a single opportunity in every two months, must employ a big gun—a Paixhan—"a peace-maker." If the shot produces havoc, the enemy ought to bear it patiently, conscious that he seizes upon every little contemptible object in the hope of annoying us. Witness, for example, the *speaking automaton!*

It was a pitiful subterfuge of his, to say that he could not reply to our remarks on account of the language used, when part of that very language was his own! We did hope that he would explain why it is, that the work of M. Chailly, which has been highly approved of throughout France, England, and this country, save Philadelphia, should have encountered opposition in his journal alone. His only explanation is, that he is "*independent*." Others would call it by a very different name.

"Independent," forsooth! Look at the present number of this Journal, at our notice of "Human Health, &c.," and contrast it with the notice of the same work in the "Examiner." We thus have a definition of this word "independence," which means—*giving praise invariably to all that is written by a brother professor, and the contrary to whatever comes from New York.*

We have from a reliable source the cause of the Examiner's special opposition to us, which, as we always suspected, finds its promptings in the mortified vanity of a *certain* professor.

Postage on Medical Journals.—It is of the utmost importance to the profession, and indeed to the whole community, that every facility should be afforded for the diffusion of medical, agricultural, and scientific intelligence. To accomplish this, medical men, agriculturists, and others, should unite to induce Congress to reduce the postage on such periodicals to the same rate as that on newspapers.—*Philadelphia Medical News.*

Seeing the unjust and unreasonable difference made by law between periodical and newspaper postage, we highly approve of this proposition; and as a word of caution to the General Post Office, we would add that, unless the proper remedy is soon afforded, not only will letters, as is now the case, but newspapers and periodicals, be transported, on all the great routes at least, through private channels of communication.

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ART. XI.—Enchiridion Medicum; or, the Practice of Medicine; the result of fifty years' experience. By C. W. HUFELAND, Counsellor of State, &c., &c. Second edition, from the sixth German. Translated by C. BRUCHAUSEN, M.S. Revised for the proprietor by ROBT. NELSON, M.D. New York: Wm. Radde. 1844. Pp. 630. With an Essay on the Three Cardinal Means of the Art of Healing; by the same Author. P. 79, ... 376

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Art. XII.—Medical Communications of the Massachusetts Medical Society. Vol. VII. Part III. Boston, 1844, ... 378

Art. XIII.—A Treatise on Pathological Anatomy. By Carl Rokitanski, M.D., Professor Extraordinary of Pathological Anatomy at the University of Vienna. Part I. Containing the abnormal conditions of the Organs of Respiration. Translated from the German, with additions on Diagnosis, from Schoenlein, Skoda, and others, by Dr. John C. Peters. New York: Wm. Radde, 322 Broadway. 1845. Pp. 164, . 378

Art. XIV.—Report of the Sanatory Condition of the Laboring Population of Great Britain. A Supplementary Report on the results of a Special Inquiry into the practice of Interments in Towns, made at the request of her Majesty's principal Secretary of State for the Home Department. By Edwin Chadwick, Esq., Barrister at Law. London: Printed by W. Clowes & Sons, for Her Majesty's Stationary Office. 1843. Pp. 279, ... 382

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Art. XVI.—Thoughts on Quarantine and other Sanatory Systems, being an Essay which received the Prize of the Boylston Medical Committee of Harvard University, in August, 1834. By Charles Caldwell, M.D. [Veritas atque utilitas antiquitati præponendæ sunt.] Boston: Marsh, Copen & Lyon. 1841.

Thoughts on Moral Medicine, being an Introductory Lecture. By Charles Caldwell, M.D. Delivered November 4, 1834.

Thoughts on Hygiène, as applicable to Hot Climates, more especially to the Mississippi Region, and to New Orleans. An Introductory Lecture, delivered November 8, 1836. By Charles Caldwell, M.D., . . 385

Art. XVII.—A Manual of Chemistry, containing a condensed View of the present State of the Science, with copious References to more extensive Treatises, original Papers, &c. Intended as a Text-Book for Medical Schools, Colleges, and Academies. By Lewis C. Beck, M.D., Professor of Chemistry in Rutger's College, New Jersey, and in the Albany Medical College. Fourth edition, revised and illustrated with numerous Wood Cuts. New York: W. E. Dean, 1844, pp. 480, . 386

Art. XVIII.—Anatomical Atlas, illustrative of the Structure of the Human Body, by Henry H. Smith, M.D. Parts IV. and V. . . . 386

Art. XIX.—The Medical Student, or Aids to the Study of Medicine. A revised and modified edition. By Robert Dunglison, M.D., Professor of the Institutes of Med., etc. Phil.: Lea & Blanchard, pp. 311, . 386

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TO READERS, CORRESPONDENTS, ETC.

Since our last issue, it is known to several professional friends, that Dr. Forry has been prevented attending to his editorial duties, in consequence of severe and protracted illness, which has, indeed, for some two or three weeks rendered his life extremely precarious. It is with unfeigned regret that we have to state his continued indisposition. The present number of the New York Journal of Medicine has consequently been consigned to the care of a gentleman who has kindly undertaken its supervision.

Communications have been received from Dr. G. O. Jarvis, of Portland, and Dr. Th. A. Tellkampf.

We have to acknowledge the receipt of the following works:

Clyclopœdia of Practical Medicine, Parts XI., XII., XIII., XIV., XV. (From the publishers.)
Annual Catalogue of the Medical Institution of Geneva College.
The Medical Student; or, Aids to the Study of Medicine. By ROBLEY DUNGLISON, M.D. Philad.: Lea & Blanchard. (From the publishers.)
Medicines and their Uses. By J. MOORE NELIGAN, M.D. Edited by DAVID MEREDITH REESE, M.D. New York: Harper & Brothers. (From the publishers.)
Supplementary Report on the Sanatory Condition of the Laboring Population of Great Britain. London: Clowes & Son. (From A. Boardman, Esq.)
A Manual of Chemistry. By LEWIS C. BECK, M.D. New York: W. E. Dean. (From the publishers.)
Natural History, Pathology, and Treatment of the Epidemic Fever prevailing at Edinburgh. By JOHN ROSE CORMACK, M.D. London: J. Churchill.
Principles of Pathology and Practice of Medicine. By JOHN MACKINTOSH, M.D. Fourth American edition. By S. G. MORTON, M.D. Philad.: Lindsay & Blakiston. (From the publishers.)
Anatomical Atlas. By H. H. SMITH, M.D. Parts IV. and V. Phila. (From the publishers.)
Elements of Comparative Anatomy. By RUDOLPH WAGNER, M.D. New York. J. S. Redfield. (From the publisher.)
Medical Communications from the Mass. Med. Soc. Vol. III. (From Dr. Homans.)
Enchiridion Medicum; or, the Practice of Medicine; the result of fifty years' experience. By C. W. Hufeland, Counsellor of State, &c. New York: Wm. Radde. (From the publisher.)
A Treatise on Pathological Anatomy. By CARL ROKITANSKI, M.D. Translated from the German, by Dr. JOHN C. PETERS. New York: Wm. Radde. (From the publisher.)
Dissertation on the Respect due to the Medical Profession. By WORTHINGTON HOOKER, M.D. (From the author.)
Thoughts on Quarantine. By CHARLES CALDWELL, M.D.
Thoughts on Moral Medicine. By CHARLES CALDWELL, M.D.
Thoughts on Hygiène. By CHARLES CALDWELL, M.D. (From the author.)
An Essay on the Philosophy of Medical Science. By ELISHA BARTLETT, M.D. (From the publisher.)
Philosophy of General Principles. By H. H. CHILDS, M.D. (From the author.)

The following medical journals have been received in exchange :—

The London Medical Gazette.
The British and Foreign Medical Review.
The Dublin Medical Press.
The Provincial Medical and Surgical Journal.
The Boston Medical and Surgical Journal.
The Western Journal of Medicine and Surgery.
The Medical Examiner.
The St. Louis Medical and Surgical Journal.
The Illinois Medical and Surgical Journal.
The Western Lancet.
The American Journal of Insanity.
Silliman's Journal.
Montreal Medical Gazette.

☞ All letters in regard to the *business* department of the Journal, and all remittances of money, should be addressed *exclusively* to the publisher, Henry G. Langley; but books for Review and Communications designed for publication, should be directed, *free of expense*, to Samuel Forry, M.D., Editor of the New York Journal of Medicine, care of Henry G. Langley. Persons at a distance may direct parcels, paid as above, under cover of Barrington & Haswell, Philadelphia, W. D. Ticknor, Boston, and Wiley & Putnam, London.

Postmasters, it will be borne in mind, are authorized by law to frank letters containing money for the subscription of periodicals.

THE NEW YORK

JOURNAL OF MEDICINE.

FOR NOVEMBER, 1844.

PART FIRST.

Original Communications.

ART. I.—*Extraordinary Effects of a Stroke of Lightning.—Singular Phenomena.* By JOHN LE CONTE, M.D., of Savannah, Georgia.

ALTHOUGH the striking phenomena—the details of which are subjoned—did not occur under my own observation, yet, having subsequently inspected the several localities, and having strictly interrogated a number of trustworthy and independent witnesses, I trust the facts will be admitted to bear a high degree of authentication, while they are divested of any ambiguity which the vague impressions of a *single* individual might cast upon them. Should the following statements, with the accompanying reflections, be thought subservient to the cause of humanity, or science, they are offered for insertion in the New York Journal of Medicine and the Collateral Sciences.

On Sunday, the 2d of July, 1843, about 3 o'clock, P. M., five negroes were simultaneously prostrated by a single stroke of lightning, on a plantation situated near the southern boundary line of Liberty County, Georgia, in latitude about 31° 30′. The sun was shining brilliantly at the time, and a greater portion of the visible hemisphere presented the usual serenity of the summer sky. A singular and rather angry-looking cloud had, for a short time previously, been observed near the verge of the south-eastern horizon, from which occasionally proceeded the low rumblings of very distant thunder. But nothing in the appearance of the heavens betokened the immediate proximity of a thunder-storm, or prepared them for the terrible electrical explosion which followed. Not a drop of rain had yet fallen, and the earth was quite dry. Such was the condition of things, when suddenly the whole atmosphere in the neighborhood was momentarily illuminated by what appeared to be an universal flash, which was accompanied, or rather instantly succeeded, by a *single* astounding report. No dust was observed to rise from the ground, nor any other evidence of mechanical violence. No thunder was heard after this explosion; the cloud quickly dispersed, precipitating only a little rain a few minutes after the accident; and, in the course of an hour, the atmosphere resumed its usual tranquillity. The five negroes were taken up in a state of insensibility, amounting to apparent death. There was no white person on the farm at the time, and nearly two hours elapsed before medical assistance could be rendered. In the details annexed, I have endeavored to render the history of each case as complete and accurate as is consistent with the character of the evidence and the attending circumstances. It is to be regretted that a more minute and rigorous examination of the bodies of those killed was not made, for it is possible that marks of the effects of electricity, and indications of the causes of death, might have been discovered.

Case 1.—A negro girl, Adeline, aged about thirteen years, was up in the branches of a small mulberry tree, twenty feet high, and standing sixteen feet in front of a line of negro houses, which extended parallel to a wood situated one hundred yards in the rear of the same. She was engaged in throwing down the fruit for her little companion below. Every principle of life seems to have been instantly extinguished by the intensity of the electrical shock:—her body had to be taken down from the branches of the tree where it had lodged. No marks of external injury observed.

Case 2.—Another female child, Kitty, aged about six years, was standing immediately under the tree. She was instantaneously killed. No superficial marks of injury observed.

Case 3.—Chloe, an adult woman, aged forty years, was walking about ten feet more remote from the base of the tree than the latter child; and also, *about five feet more distant than the two who survived the shock*, viz.: than cases 4 and 5. She was instantly killed. No marks of injury recognized, excepting a burnt spot, the size of a dollar, under the right axilla. Her clothes were set on fire; but this was probably occasioned by the breaking of a tobacco-pipe which she was smoking at the time, and which scattered the ignited contents over her cotton garments. In the three cases above-mentioned, all the ordinary attainable means of resuscitation were tried without success.

Case 4.—Charlotte, an adult woman, aged twenty-nine years, *was standing half-way between cases* 2 *and* 3, and, consequently, about five feet from the root of the tree. After remaining in a state of insensibility for some time, she gradually recovered her consciousness. A dose of castor oil was then administered. The skin on her right shoulder was abraded for a space as large as a dollar. Her clothes were rent into shreds; on the right side of her body, the skin was blistered and marked with discolored streaks, which extended anteriorly on the lower portion of the abdomen towards the pubes. A small streak likewise extended along the interior aspect of the right arm. She complained of pain in the stomach and bowels for *three weeks.* No vomiting or burning in the hands and feet, as was experienced in the next case. She has been married several years, but has never been pregnant. Her *menstruation* was perfectly *regular* prior to the reception of the shock; but has *since that time* been very *irregular;* sometimes having *two periods* per month, and then escaping *two months.* The flow has also been much diminished in *quantity.* Her health has not been very good since she was struck; manifestly resulting from her menstrual irregularity. A recent copious bleeding has afforded her evident and immediate relief. Her reproductive functions appear to continue dormant.

Case 5.—Sarah, a woman aged, *at least*, seventy years, was standing immediately beside the last. She likewise gradually recovered her consciousness. No medicine was administered. Her clothes were rent; and after a few days, marks of discoloration were manifested along the right arm and right side of the trunk. A violent paroxysm of vomiting followed the restoration to a state of sensibility; which continued, with occasional interruptions, for ten or twelve hours. As in the preceding case, she complained very much of pain in the region of the stomach and bowels, for at least two weeks after the accident. A troublesome sensation of *burning* was experienced in the palms of her hands and the soles of her feet; and in the course of two or three weeks a swelling made its appearance under the right foot, which ultimately resulted in the exfoliation of a portion of the thick indurated epidermis of that part, about one and a half inches in diameter.

The *catamenial discharge*, which had, in accordance with the ordinary arrangement of nature, ceased for more than twenty years, *was completely, and thus far, permanently re-established!!* At least, a discharge from the genital organs, having all the obvious and sensible physical characters of the *catamenia*, and observing, with vigorous exactitude, its peculiar law of periodicity, has been established, and continues to recur, with the utmost regularity, up to the present time (August, 1844), after the lapse of more than a year! She has not missed a single menstrual period since she was struck by lightning. To use a liberal paraphrase of her own language, her "Moons return as regularly as when she was a young woman." The flow comes on with the usual premonitory symptoms. Her *mammæ* have undergone an obvious *preternatural enlargement*, apparently originating in a sympathetic irritation, emanating from the establishment of the reproductive functions. This woman has had but one child, to which she gave birth, soon after reaching womanhood. The catamenial flux is represented to have been regular up to the period of its natural cessation, between forty-five and fifty years of age; subsequent to which epoch, she has presented all the appearances ordinarily attending the gradual approach of the state of senility in a vigorous constitution. The electrical shock, likewise, completely relieved her of a troublesome *strangury* which had harassed her for four or five years. Very recently she has, occasionally, had a slight recurrence of the same complaint; although under a much milder form. Otherwise, her health continues perfectly good; there being, so far as symptoms show, not the slightest indication of the supervention of organic disease of the uterus.

I regret that no opportunity has been afforded for examining, in a *critical manner*, the condition of the genital organs, and the character of the fluid which is periodically discharged; as it would have effectually removed any degree of scepticism which might possibly arise in the minds of some persons, on the score of the vagueness of negro testimony. I trust, however, that the system of minute interrogation and rigid cross-examination, which was adopted in eliciting the facts, has precluded the possibility of the occurrence of any material error; especially when it is considered that there could be no possible motive for practising deception, in a matter of this kind, on the part of a faithful old slave. Under any view of the question there can be no reasonable doubt concerning the strict menstrual periodicity of the phenomenon; and it would be difficult to assign any other than a functional origin to a discharge observing such a law.

A comparison of the details of the two cases which survived the electric shock, manifests a remarkable analogy in the appearances presented, and in the symptoms which supervened. In both instances the clothes were similarly torn—marks of discoloration indicated the passage of the lightning over the surface of the skin; and the same persistence of pain in the region of the stomach and bowels, existed during the progress of convalescence. This latter symptom, common to both—together with the continued vomiting in the last case—doubtless arose from the violent shock which the *solar plexus* of the ganglionic system of nerves sustained, by the powerful operation of the electrical energy.

A remarkably striking impression was made upon the uterine functions in both instances: in the one case, causing manifest derangement of the function of menstruation, as indicated by the irregularity of its recurrence, and the paucity of the flux:—in the other, we observe the abnormal phenomenon of the apparent re-establishment of the catamenia, after more than 20 years cessation under the natural progress of superannuation. Here we find a remarkable example of the production of diametrically opposite effects from the operation of the same agent—under, apparently, identical circumstances—and acting, seemingly, with equal degrees of intensity on the animal economy. Perhaps this may be considered a natural illustration of the truth of the homœopathic aphorism, "*similia similibus curantur;*" but admitting the validity of the axiom, it is quite clear that Nature did not, in these instances, accomplish the end by administering *infinitesimal* shocks of electricity!! Nor does this fact present anything either novel or paradoxical in its aspect, except when observed through the microscopic optics of homœopathy. Accordingly we find the essence of this so-called new doctrine promulgated in isolated instances from the earliest times, and inculcated, not only in our best classical productions, but even in our nursery maxims. Homer, Ausonius, and the precepts of the Schola Salanituria, furnish distinct allusions to it. Shakspeare says—

> "Take thou some new infection to thine eye,
> And the rank poison of the old will die."

Butler remarks—

> "As wounds by wider wounds are heal'd,
> And poisons by themselves expell'd."

But, independently of such authorities as these, every day's experience furnishes us with similar examples. One instance is sufficient for my purpose:—Are not burns frequently cured by the application of powerful stimulants? Such remedies produce the desired result, not by the *stronger*, but by the *opposite* impressions which they make; so that, after all, they operate on the antipathic principle. The effects of electricity in either "producing or removing nervous apoplexy, according to circumstances, were beautifully illustrated by the late Dr. Currie, who found, that by passing an electric shock through the head of a rabbit, he could alternately stupefy and revive it for almost an indefinite number of times" (vide I. Fletcher's Elem. of Gen. Path. p. 489. Edin. 1842). Nor are these contrary results confined to the manifestations of vital phenomena; we observe something analogous in the secret and hidden operations of the inorganic world. Thus, in chemistry, we see the influence of electricity in promoting at one time the decomposition of bodies, and at another time their re-formation ;—at one time in the form of a galvanic current causing the elements of water to separate, and exhibiting them in the form of gases ;—at another time, in the condensed form of an electric spark causing the self-same gases to re-unite, and become identified with water. It appears, therefore, that this doctrine has a philosophical foundation ; although all that is useful or valuable in it, has been carried off in the cloud of infinitesimal globuli, which the weavers of this precious hypothesis have so ingeniously thrown over the subject. The inexorable exclusiveness of its champions has brought every remedy within the limits of the doctrine, and thus converted it into a bed of Procrustes ;—whilst the infinitude of symptoms which are enumerated as excited by each individual medicine (495 for chamomile flowers, and 1400 for nux vomica), must be regarded as the "consummation of the sublimity of absurdity." The history of this fantastic theory affords a striking confirmation of the remark of Cicero—"nihil tam absurdum, quod non dictum sit ab aliquo philosophorum." To return to my subject.

In consideration of the seeming restoration of the catamenial flux,—taken in connection with the manifestation of a correlative sympathy in the mammary glands,—in a woman advanced beyond 70 years of age ; an important physiological inquiry arises with regard to the possibility of impregnation taking place at her period of life. The somewhat neglected observations of Kirkringius, in 1672; the dissections of Mr. Cruikshank, in 1797 ; those of Dr. Robert Lee, in 1831-2 ; the recent ones of MM. Gendrin and Negrier, in 1839 ; together with the still later researches of Mr. Girdwood, and of MM. Raciborski, Bischoff, and others,—have clearly demonstrated that *each act of menstruation is connected with the maturation and discharge of an ovum.* To use the language of M. Raciborski, the menstrual discharge is "an epiphenomenon (accessory phenomenon) of an important function devolved upon the ovaries, viz., the successive formation and separation of the ova and graafian vesicles" (Medico-Chirurg. Rev. for October, 1843, p. 510, from *L'Experience*). If, therefore, the ovaria should retain their appropriate functions until an advanced age, or if they should regain their formative powers through the operation of any efficient cause, and thus furnish new and healthy ova, which capacity is *generally* indicated by the uterus continuing, or reassuming, its menstrual action, there is no good physiological ground for denying that impregnation *might* take place under favorable circumstances. Accordingly, a number of well-authenticated examples of late fecundity are to be found on record. Out of ten thousand pregnant females registered at the Manchester Lying-In Hospital, in England, Mr. Roberton found that 436, or 43.6 per thousand, were upwards of forty years of age ; above fifty years of age, there were but three cases, the proportion dwindling to 0.3 per thousand ; that is, one instance of pregnancy in 3333.3. The eldest of the three had reached her fifty-fourth year. Mr. Roberton observes, that as far as he could ascertain, and particularly in the three cases above fifty years, the *catamenia continued up to the period of conception* (Edin. Med. and Surg. Journ., vol. 38, p. 254, Oct., 1832). Haller has given still more extraordinary instances of births in advanced age, viz. one at fifty-eight, one at sixty-three, and another at seventy ! We are not informed whether menstruation continued up to the epoch of conception in these cases. Dr. W. P. Dewees has recorded the case of an unmarried woman, who had a child when she was sixty-one years old! The doctor supposed that there were indications of a serous discharge anterior to impregnation, which furnished evidence of returning youthfulness. (Treatise on Diseases of Females, fifth ed., Phil., 1835, p. 89-90.) Capuron quotes several cases of child-bearing, in advanced life, among which are the following:—Pliny records the case of Cornelia, of the family of the Scipios, who, at the age of sixty, bore a son, who was named Volusius Saturninus. Marsa, a physician of Venice, mentions that he treated a woman for dropsy, who was really pregnant; but he was deceived by her age, which was sixty. Valescus de Tarenta mentions a woman who continued to menstruate beyond sixty, at which age she bore her last child. (Médecine Légale, etc., p. 92-3 et 98; as cited by Dr. W. F. Montgomery, on the Signs and Symptoms of Pregnancy.—Dunglison's Am. Med. Library, Phil. 1839, p. 112.) In the statement sent to Parliament in 1755, by Bartholomew Mosse, when endeavoring to procure a grant for the Dublin Lying-In Hospital, he mentions that eighty-four of the women delivered under his care were between the ages of forty-one and fifty-four; four of these were in their fifty-first year, and *one* in her fifty-fourth. (Montgomery, Op. cit., p. 110, 111.) Mrs. Ashley, wife of John Ashley, of Firsby, near Spilsby, was delivered of twins in May, 1816, in the fifty-fourth year of her age. (Edin. Annual Register, vol. 9, part 2, p. 508.) Colomb adduces a similar case, and Knebel two, one of fifty-two years, and the other of fifty-four. La Motte gives a very circumstantial account of two cases of much interest, in reference to this point, in both of which he attended the patients. The first was that of a woman, who lived a life of celibacy up to the age of forty-eight, and then married, in the hope that her age precluded the possibility of having children, her menstruation also having become irregular; yet she soon conceived, and in due season was delivered. The other case is still more remarkable: the woman declined marriage until she was fifty-one, from the fear of having a family; but soon became pregnant, and was delivered after a labor of only two hours. Dr. Montgomery adds a case on the authority of Dr. Labatt, of Dublin, of a female marrying at forty, and conceiving and bringing forth a living child, for the *first time*, when past the age of fifty. (Montgomery, Op. cit., p. 111.)

Dr. Dewees remarks, that "impregnation, after the final cessation of the menses, is of extremely rare occurrence, and should be ranked among those extraordinary instances, in which the system makes an attempt to renew certain lost functions, or to repair lost parts." He further maintains, that "a healthy menstrual action is a *sine quâ non* to impregnation, in the earlier parts of life; it would seem, therefore, to be indispensable to this end, at the latter period: and where impregnation has obtained, we cannot well question *but it has been preceded by this action*." (Op. cit., p. 93.) There is too much exclusiveness in this language: such reasoning cannot set aside the numerous well-attested instances of fecundity existing among women who have never menstruated or had vicarious discharges of any kind. Even Aristotle intimates, that it is possible some women may conceive without having the catamenia. (Hist. Animal., Lib. 7, c. ii.) Morgagni, Frank, Capuron, Foderé, Sir E. Home, and others, have recorded cases of fecundity without menstruation. It is sufficient to notice only a few recent examples in illustration of this point. A woman, 55 years of age, lately resided in Cornwall, who had borne several children and always enjoyed good health, but had never menstruated or had any vicarious discharge. (Montgomery, Op. cit., p. 29.) Rondelet mentions a woman who was delivered twelve times; and Joubert another, who bore eighteen children, neither of whom had ever menstruated. (Gardien. *Traité des Accouchemens, tom.* i., p. 220.) M. Vandersavel communicated to the Medical Society of Verviers a case of pregnancy without menstruation in a patient who had attained her twentieth year. M. Rutten took occasion to state, that he had seen three analogous cases: the first had a family of fourteen children without ever having discharged anything like the catamenia at any period; the second was thirty-two years old; and the third became pregnant, but aborted. In none of these was there any vicarious hemorrhage or discharge; but what is remarkable, all were constantly tormented with an insatiable thirst. (Am. Journ. of the Med. Sciences, for April, 1844, p. 496, from *Archives de la Médecine Belge, Aug.*, 1843.)

On the other hand, there are a number of equally well-authenticated instances of impregnation taking place after the final and absolute cessation of the menses. I have already noticed several examples of this kind, when speaking of child-bearing in advanced life. The following is a remarkable American case: A woman at Whitehall (State of New York), named Ann Cook, had a child at the age of sixty-four. She had not menstruated for fifteen years, and her youngest child was twenty-six years old. The child was born in February, 1836, and was doing well. (Beck's Med. Jurisprudence, 6th ed., Phil., 1838, vol. i., p. 208, (note) from the Boston Med. and Surg. Journ., vol. xiv., p. 79) At a recent meeting of the "Societé Médicale du Temple," M. Legros narrated the case of a married woman, the mother of several children, who ceased to menstruate at the age of forty-one. Two years afterwards she became pregnant, and in process of time was delivered of a full-grown child. She then confessed, that on thinking herself safe, she had abandoned herself to a young man. M. Legros suggests that the excitement which attended this new *liaison* may have revived the functional vitality of the uterus. (London Lancet, for Oct. 28th, 1843, Am. ed., vol. i., p. 108, 1843–4, from the *Gaz. de l'Hôp.*, Oct.)

The true state of the question seems to me to be comprehended in the following considerations:—As I have already remarked, the only essential condition of fecundity is, that the ovaries should be capable of maturing and eliminating healthy ova. It is true, that in the human female, this capability of maturation and elimination, is generally manifested by a periodical discharge from the internal surface of the uterus; but it is not physiologically impossible, or even improbable, that healthy ova may be formed without the usual catamenial accompaniment. Menstruation is ordinarily "an epiphenomenon;" but it does not seem probable that it is indissolubly connected with the appropriate function of the ovaries. This view is in harmony with the best-established facts in comparative physiology. From the researches of Purkinje, Von Baer, Coste, Carus, M. Barry, Jones, Krause, R. Wagner, Bischoff, Bernhardt, and Valentin, it appears that the germ in the human female,—as in the females of the lower animals,—consists in the presence of an ovum similar to what is found in the bird. And the observations of MM. Duvernay, Raciborski, Bischoff, and Pouchet, have shown that in all animals the ova are discharged at determinate epochs,—without the intervention or co-operation of the male,—which have a manifest relation with the periodic excitement of the genital organs. Hence, it appears, that the menstruation of women, in so far as the periodical maturation and discharge of ova is concerned, is analogous to the heat or rut of mammiferous animals. The sphere of the law which regulates the generation of animals, has thus been greatly enlarged, establishing a closer analogy than was supposed to exist between the discharge of the ova of mammalia, and those of fishes, batrachian reptiles, and others, in which the ova are discharged from the body, and impregnated externally to it. MM. Rengger, Meckel, Cableis, and Numan, observed in the sheep, swine, cow, buffalo, and mare, a mucous or sero-sanguinolent discharge from the generative organs, coincident with recurrence of the period of heat in the animal. And MM. Geoffroy St. Hilaire, Fr. Cuvier, and Ehrenberg, distinctly maintain that certain species of the quadrumana are subject to a periodic discharge of sanguineous fluid corresponding with the epochs of the heat, the periods of which usually return every twentieth or thirtieth day. Blumenbach, J. Müller, and others, regard the bloody discharges of animals during the period of sexual heat, as totally different from menstruation in the human female, since the latter,—they affirm,—has no connection with the sexual excitement. Whether the analogy be in all respects complete or not, it is very evident that in every animal the phenomenon in question is connected with the reproduction of the species; and it is quite certain that in women there is a greater aptitude for conception immediately before and after menstruation, than there is at any intermediate period. It is clear from the foregoing considerations that the expulsion of unimpregnated ova at determinate epochs, is common to the whole zoological series, and has a necessary connection with the process of fecundation; whereas, the phenomenon of a periodical flux from the generative organs is peculiar to a few species of mammiferous animals. The former is, therefore, an universal, essential, and necessary condition of a generative capacity in the animal kingdom, while the latter is only an occasional accompaniment in some of the higher mammalia.*

Under any view of the question, it seems to be evident, that many animals manifest a capability of reproduction, without the phenomenon of a discharge analogous to the catamenia; and it moreover appears to be established beyond a rational doubt, that in women, impregnation has occasionally taken place without the previous or subsequent appearance of the menses. We have, therefore, positive and incontrovertible facts to sustain us in the opinion, that, in the human female, fecundation is possible, either without the supervention of menstruation, or after its final and absolute cessation, according to the ordinary arrangement of nature; while the analogical evidence afforded by comparative physiology, is sufficient to lead us towards a rational explanation of these singular aberrations in human embryology. As to the age to which a woman may retain her procreative powers—perhaps the assertion of Lord Erskine, in his speech on the celebrated Banbury Peerage case, that "there is no statute of limitations on the powers and faculties of man,"—which he applied to the male—may, with the same degree of propriety, be made applicable to the female.

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* For the latest researches on the comparative physiology of reproduction in animals, see W. B. Carpenter's Principles of Gen. et Compt. Phys., 2d Ed , Lond., 1841, p. 456 to 501, par. 602 to 665; and Prof. Richard Owen's Lectures on the Comp. Anat. and Phys of the Invertebrate Animals, London, 1843, p. 23, et *passim.* On the physiology of Menstruation, and its connection with the discharge of unimpregnated ova in the human female, see also J. Müller's Elements of Phys., Am. Ed., by J. Bell, Phil., 1843, p 821 to 829; W. B. Carpenter's Principles of Human Phys., Am. Ed., Phil., 1843, p. 572, par. 742. Also, Mr. Raciborski in Medico. Chir. Rev. for Oct., 1843, p. 510-12; M. Pouchet in *Idem*, for Jan., 1844, p. 223-226; M. Remak in *Idem,* for April, 1844, p. 484-486; and Dr. Paget's Report in the Am. Journ. of the Med. Sciences, for April, 1844, p. 436-438. See also, the New York Journal of Med. and the Collateral Sciences, vol. 2, p. 416, 417, May, 1844; and Medico Chir. Rev., for July, 1844, p. 253-256.

The limits of the generative faculty in women are not invariably those of the function of menstruation. For, not only is it observed to continue beyond the period of menstrual cessation, but conversely, the catamenial flux has been known to recur with perfect regularity long after the powers of fecundity have become dormant. At least, it has been known to continue twenty or thirty years later in life than any recorded instance of child-bearing; from which it may be inferred that the activity of this function is not always accompanied with a correspondent capability in the ovaria to eliminate healthy ova. This is another proof that the two phenomena are not absolutely inseparable. I am aware that Dr. Locock and others have suggested that such instances are not cases of genuine menstruation, but sanguineous discharges arising from uterine disease; but the evidence against such conjecture is too strong and palpable, the observers too accurate and trust-worthy, to admit of a reasonable doubt concerning the true character of the phenomenon in question. The records of obstetrics furnish many well-attested cases of protracted menstruation. It has been known to have been protracted until the age of 54, 55, 65 (Dewees); 61 (La Motte); 55, 60, 65 (Ryan); 69 (Parry); 70 (Richerand, Magendie); 60 to 75 (Desormeux); 80, 95 (Lond. Med. and Surg. Journal, 1831, vol. 5, p. 238); 71, 80, 90 (Good's System of Nosology, Boston edition, p. 297); and 100, 106 (Haller, Blancardi). M. Gardien relates a case in which menstruation continued regular and healthy up to the age of 75 (op. cit., tom. 1, p. 366). Of 77 cases noted by M. Roberton and Mr. Harrison, at Manchester, in 17, menstruation continued beyond the age of 50, of which 2 went to 60, and 1 to 70. (Edin. Med. and Surg. Jour., vol. 38, p. 254). Mr. Semple has collected several instances of menstruation between 70 and 87 years of age. (Lond. Med. Gaz., vol. 15, p. 463). An extraordinary case occurring in Italy, is recorded, where the function continued from the 53d to the 94th year, without injury to health. (Beck, op. cit., vol. 1, p. 209 (note), from Am. Jour. Med. Sciences, old series, vol. 7, p. 514.) M. Brierre de Boismoni, in his Prize Essay on Menstruation, gives the history of an old maiden lady, who died at the age of 72, up to which time the catamenia had continued to return (very irregularly indeed) from her 24th year, when they made their first appearance. (Medico-Chir. Rev. for Jan., 1843, p. 239.) Dr. Strassberger, of Beeskow, has given the case of a lady who ceased to menstruate in her 42d year, and with the exception of some attacks of gout, remained in good health until her 80th year. At that time—in 1832—menstruation recurred, with abdominal pain, continuing as before for four days, and it returned regularly until August, 1835, during a period of nearly three years. From that time it disappeared again until the time of her death. According to her account the fluid had the usual color and smell. (Medicinische Zeitung, No. 48, S, 248, Nov. 30, 1836, as cited in the Am. Med. Intelligencer, vol. 1, p. 374, Phil. 1838.) Dr. Peterson relates the case of a healthy woman, aged 79, who was seized on the 26th of March with uterine pains; these lasting a few days, were terminated by a hemorrhagic discharge. On the 23d of April she was again affected in the same way, the discharge appearing on the 25th, and continuing four days. Since that period (twelve months after) she has regularly menstruated. (Brit. and For. Med. Rev., Oct., 1840, p. 560 from Bibliothek for Læger, Feb., 1840.) The translator adds that a most extraordinary case is given by Velasquez, of Tarentum, of the Abbess of Monvicaro, who, at the age of 100, after a severe illness, had a recurrence of the catamenia; and not only this, a new set of teeth and a fresh head of hair appeared! (Ibid, p. 560.) But perhaps the most astonishing case connected with this subject, is related by Holdefreund, where the constitutional tardiness of the genital system was so great that the catamenial flux appeared for the first time at the age of 70 years! (Erzäklungen, No. 4, as cited in Good's Study of Medicine, Doane's ed., New York, 1836, vol. 2, p. 434.) Some of the last cases above detailed are, doubtless, curious examples of the sudden and very extraordinary renovation of powers which the system occasionally exhibits, when life is prolonged to the period which was denominated the grand climacteric epoch by the ancient Greek physiologists.

I have thus taken a hasty glance at the anomalous phenomena occasionally presented in the procreative powers of the human female, viewed in connection with the function of menstruation; in the hope that some ray of light might be thrown upon the physiological question suggested by the case which is under consideration. The legitimate and strict logical induction which flows from a careful review of analogous cases, is, that the continuance or re-appearance of the catamenia in advanced life, *does not necessarily imply an absolute capability of fecundation*, although it may, *cæteris paribus*, augment the probabilities of impregnation supervening in any given instance. On the other hand, its non-appearance or permanent cessation, does not always indicate the impossibility of the supervention of pregnancy,—although it may, *cæteris paribus*, diminish the chances of such an occurrence. This point cannot, therefore, be absolutely and rigorously determined by any process of *à priori* reasoning. Menstruation is an usual and valuable,—but not an invariable—monthly index of the generative capacity in the human female. Under any circumstances,—in very old women,—the probabilities are, in general, immensely against the affirmative side of the question. In the individual example under consideration, this disparity of chances may be somewhat equalised, by the additional evidence in favor of fecundity, afforded in the phenomenon of the mammæ participating in the catenation of sympathies. During the researches into which I have been led, while investigating this subject (which, however, a variety of causes has rendered comparatively limited), I have not been able to find a single case, where the restoration of the menstrual flux in the aged, was produced by the instrumentality of a stroke of lightning, or any analogous shock impressed upon the animal economy. It is physically possible, that the reception of the electrical shock, and the renewal of the function, might have been mere sequent phenomena, having no connection as cause and effect; but the powerful impression produced on the same function by the operation of the same agent, in the other case, seems to overthrow this otherwise improbable conjecture.

The remarkably striking effects produced on the nervous system as well as the uterine functions, in both of the surviving cases, by the influence of electricity, serve to revive and strengthen the suspicion that this powerful agent has been greatly neglected in its applications to medicine; having, in a majority of instances, been unscientifically and inefficiently applied. Very recently, the spirit of philosophical induction which Dr. Golding Bird and others have rekindled on this subject, has, in a measure, served to elevate electricity to its proper position as a remedial agent.

Although the principle of electricity or galvanism was unknown to the philosophy of the ancient Greek and Roman physicians, yet it was virtually applied by them in the treatment of disease, in the shape of that living voltaic battery—*the marine Torpedo** (*T. diversicolor*, *and T. oculata of J. Davy.*) Scribonius Largus, a Roman physician and inferior Latin writer, of the age of the Emperor Claudius (A. D. 41), recommends the application of torpedoes, both in headache and in gout. He says:—"A headache, however inveterate and intolerable, is immediately removed, and permanently cured, by placing a live black torpedo on the painful part till the pain cease and the part become benumbed." ("Compositiones Medicæ," c. 1. Apud Medicæ Artis principes, 1567. As translated and cited in the London Lancet for July 29th, 1843. Am. Ed. 1842–3, vol. 2, p. 566, 567.) He continues:—"In both species of gout (the hot and the cold, to wit) a live black torpedo should be placed under the feet, the patient standing not on a dry shore, but on one washed by the sea, till the whole foot and leg is benumbed up to the knees. This both removes the pain at the time, and prevents its future return." (Op. cit., c. 41, cited and translated *ut supra*, vol. 2, p. 567.) Claudius Galen (A. D. 131—200), the brilliant Grecian genius, and physician to the Emperor Marcus Aurelius, observes that:—"Some persons think that certain bodies can affect others in their vicinity by contact only, in consequence of the mere force of their virtue, and that this is plainly shown in the case of the marine torpedo, the power of which is so great that when it is transmitted to the hand of the fisherman through his spear, it suddenly renders the whole hand torpid. From these conjectures it is easily understood that certain things of small bulk induce, by contact alone, the greatest alterations, as may be seen, also, in the Heraclean stone, which is called the magnet; for iron which it has touched adheres to it without any fastening; then if another piece of iron touch that which was first touched, it will adhere to it as the first did to the magnet; a third piece of iron will, in like manner, adhere to the second, so as to make it evident that the most intense powers reside in certain substances." (Galen—"De Locis Affectis," lib. 6, c. 5. Edit. Basil, Græce, 1538. Translated and cited *ut supra*, p. 566.) This is certainly a remarkable passage; and the translator justly remarks that—"We have here three things worthy of notice: first, a recognition of the power that has since been known as animal electricity; secondly, a knowledge of the fact that this power is capable of transmission through a conducting medium; and, thirdly, a conjecture of its affinity to the magnetic power." "Is not a germ of electro-magnetism also to be found in the same passage ?" In another place the same author informs us, that he found the dead torpedo ineffectual in curing headache and causing the return of prolapsed anus ; but that he found the application of the live fish perfectly effectual in removing headache. (Galen—" De Simpl. Medic. Facult.," lib. XI. Ed. cit., tom. 2, p. 150, as cited *supra*, p. 566.) Aëtius of Amida (A. D. 550), writes to the same effect :—" The torpedo, applied alive, cures chronic headache, and causes the prolapsed anus to return." (" Lib. Medicinal," lib. 2, c. 185. Ed. Ald., translated and cited *ut supra*, vol. 2, p. 566.) Lastly, Baron A. de Humboldt assures us, that these electrical cures are found among the savages inhabiting the vast solitudes of the equinoctial regions of America, as well as among the Greeks and Romans. " In Dutch Guiana," he says, " at Demarara for instance, electrical eels" (Gymnotus electricus) " were formerly employed to cure the paralytic. At the time when the physicians of Europe had great confidence in the effects of electricity, a surgeon of Essequibo, M. Van der Lott, published a treatise on the medical properties of the gymnoti." He further says :—" I did not hear of this species of remedy in the Spanish colonies which I visited ; but I can assert, that, after having made experiments during four hours successively with gymnoti, M. Bonpland and myself felt till the next day a debility in the muscles, a pain in the joints, and a general uneasiness, which was the effect of a strong irritation of the nervous system." (Alex. de Humboldt's Personal Narrative of Travels to the Equinoctial Regions of the New Continent. Translated from the French by Helen Maria Williams. Vol. 4, Book 6, Chap. 17, pp. 356, 357. London. 1819.)*

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* Accurate descriptions of the properties of the Torpedo are to be found in the writings of the ancient physicians and naturalists, viz —in Hippocrates (B. C. 460—360?); in Aristotle (B. C. 3 4—322); in Dioscorides (A. D. 54?); in Pliny (A. D. 23—79); in Appian (A. D. 100); and others. Aristotle says that this fish produces torpor in other fishes, and is thereby enabled to seize and devour them. Pliny says that when touched by a rod or spear, even at a distance, it paralyses the strongest muscles.

Since the period (1744) when M. Kratzenstein of St. Petersburgh for the first time attempted to make electricity of some service in the cure of several diseases, its reputation as a remedial agent has been as dubious and fluctuating, as the results of different experimenters have been vague and contradictory. The indefatigable electrician and philosopher, Tiberius Cavallo, has enumerated 24 distinct affections, in which the judicious employment of electricity has been found authentically useful. (Vide, Complete Treatise on Electricity. 4th Ed. in 3 vols. Vol. 2, p. 144 to 161 et seq. London. 1795.) Later investigations have pointed out to philosophers, that this agent is neither that grand catholicon which cures all diseases—so eloquently advocated by some of the earlier enthusiasts—nor so inefficient and useless an application as many enlightened physicians have asserted. It must be confessed, however, that physicians have not, heretofore, conducted the inquiry in that spirit of careful and rigid induction, which might lead us to those general laws and extensive generalizations, so essential to a rational application of such a subtle and energetic agent.

It is refreshing to perceive that a better and more philosophical spirit is beginning to germinate among men of acknowledged attainments in science. Indeed, it is impossible to persuade ourselves, that an agent which so powerfully affects the nervous system, as well as the coagulability and other properties of the blood, would not admit of very important applications in the treatment of disease. The acknowledged influence of electricity as displayed in promoting the passage of fluids through capillary tubes, has suggested to Mr. Martyn Roberts of London, the beautiful analogy that it is the neuro-electric power in the animal economy which overcomes the resistance offered to the blood in its progress through the tortuosities of the minute ramifications of the vascular system, and that it thus assists in circulation. This conjecture is sustained by several striking illustrative electrical experiments, followed by an ingenious explanation of the phenomena of inflammation and blushing. (Vide, Lond. and Edin. Phil. Mag. 3d series. Vol. 19, p. 41, et seq. 1843.) Although this beautiful hypothesis may involve various fallacies in its applications, yet, the well-established property of electricity in promoting the circulation of fluids through capillary tubes, suggests the probability of its acting analogously on the fluids in the animal system, and being thereby efficacious in forwarding the passage of the blood through the vascular capillaries, and increasing the quantity of sensible perspiration.

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* The same acute philosopher propounds this question :—" Did an ingenious and lively people, the Arabians, guess from remote antiquity, that the same force which inflames the vault of heaven in storms, is the living and invisible weapon of inhabitants of the water ? It is asserted, that the electrical fish of the Nile" (Malapterurus electricus) " bears a name in Egypt that signifies *thunder*." (Humboldt. Op. cit., vol 4, p. 377, from *Annal. du Mus.*, vol. 1, p. 398.) However, this philological evidence seems to be greatly weakened by the circumstance that a " distinction is to be made between *rahd*, thunder, and *rahadd*, the electrical fish ; and that this latter word means simply *what causes trembling*." (Silv. de Sacy, in *Abd-Allatif*, p. 167, as cited by Humboldt, Ibid., p. 377. Note.)

There can be no doubt that electricity is very materially concerned in the economy both of animal and vegetable life; but in the absence of all certain knowledge as to the mode in which it is excited and brought into play in living bodies, the chasm can, for the present, be supplied only by remote conjecture. The experiments of De Candolle, Duhamel, Weekes, and others, have established its influence on the germination of seeds and the growth of plants; while the energy of its action in an accumulated form, shows that it holds an important rank among the ultimate causes of natural phenomena. Almost all chemical changes are attended with some alteration in the electric state of the bodies concerned; and when we consider the number and variety of these changes in the living animal body, it is not surprising that disturbances of its *electric equilibrium* should be continually occurring. But these are usually so slight, that they can be detected only by refined means of observation; and it is only in those rare instances when they become considerable that they attract notice. These electrical phenomena have been carefully studied in vegetables. If a wire be placed in apposition with the bark of a growing plant, and another be passed into the pith, contrary electrical states are indicated, when they are applied to an electrometer. If platinum wires be passed into the two extremities of a fruit, they also will be found to present opposite conditions. In some fruits, as the apple or pear, the stalk is negative, the eye positive: whilst in such as the peach or apricot, a contrary state exists. If a prune be divided equatorially, and the juice be squeezed from its two halves into separate vessels, its portions will, in like manner, indicate opposite electrical states, although no difference can be perceived in their chemical qualities (Vide, W. B. Carpenter's Principles of General and Comparative Physiology, 2d ed., Lond., 1841; p. 433, part 572, from Annales de Chimie, tom. 57). Electricity possesses the remarkable power, when transmitted along the several nerves of special sense, of exciting those peculiar changes in the brain, by which the different sensations are produced; and thus, by proper management, this single agent may be made to produce flashes of light, distinct sounds, a phosphoric odor, a peculiar taste, and a prickling feeling, in the same individual at one time (Vide, W. B. Carpenter's Animal Physiology. Popular Cyc. of Natural Science; London, 1843, pp. 371 et 437, par. 408 et 587). Thus, it clearly appears that, in their effects, as well as in their mode of action, there is a more obvious analogy between electricity and nervous agency, than there is between any other two powers of animated and inanimated nature: the most palpable difference consisting in the fact, that the conducting power of a nerve is destroyed by a ligature, whilst it is still capable of transmitting a current of electricity or galvanism. According to Bellingeri and Rossi, the blood presents modifications of its electrical states, in the severe forms of inflammatory fever. It is not improbable that the evident effect of light upon the blood, in rendering it both more abundant and rich, may be attributed to the electrical states of the solar rays (Vide, Copeland's Dic. of Prac. Med., vol. i., part 1., Art. Blood, p. 183, par. 90).

The most disastrous effects are frequently produced by the transmission of accumulated atmospheric electricity through the bodies of men and animals; and numerous instances are upon record. It is not, perhaps, uncommon for lightning to produce a decided medical effect in those instances where its intensity or quantity is not sufficient to destroy life. This may be either injurious or beneficial, according to circumstances. Instances have been known where paralysis, deafness, dumbness, indistinctness of vision, or total blindness, and permanent loss of memory, have resulted from strokes of lightning. On the contrary, a few rare examples are to be found, where a permanently beneficial effect has been produced on invalids, after recovering from the violence of the shock. Professor D. Olmsted has reported a remarkable case of recovery from a paralytic affection by a violent stroke of lightning. It appears that Mr. Samuel Leffers, of Carteret County, in North Carolina, had been seized with a paralytic affection, which fixed itself on the face, and principally on the eyes; causing them to remain uncovered day and night, from which exposure he had nearly lost his sight. As he was walking in his chamber during a thunder-storm, a flash of lightning struck him down senseless; he recovered his consciousness at the end of twenty minutes, but did not regain perfectly the use of his legs for the rest of the day and night. The next day he found himself so far recovered that he sat down to give a distant friend an account of what had happened. He was agreeably surprised to find himself able to write a long letter without the aid of glasses. The paralysis came on in the summer of 1806, when he was about seventy years of age; and the accident occurred on the 10th of August following. Since that period (after the lapse of fourteen years), the paralysis has never returned; from which he concluded that it was effectually cured by the shock. The same cause which restored his sight, on the other hand, impaired the delicacy of his hearing; since a deafness commenced at the same time, which continued to the time of writing this account to Professor Olmsted, when he had attained the age of eighty-four years. (Am. Journal of Science and Arts, vol. 3, p. 100—103; 1821.) Tulpius relates the case of a young man, who, after a dumbness of three years duration, arising from the ablation of one-half of the tongue, felt a great movement of the muscles of that organ at the moment in which he saw a brilliant flash of lightning, followed by a violent clap of thunder,—"*et recouvra immediatement la parole.*" (*Observations médicales,* lib. 1, obs. 41, as cited in the *Dictionnaire de Médecine,* *ou Répertoire Général des Sciences Médicales*, 2d ed., Paris, 1835, vol. xi. Art. *Electricité*, p. 218.) Dr. Tilesius, of Mulhauzen, has given an interesting account of the effects of lightning on four persons who were struck down while passing along a narrow road, embedded in a forest. The most singular circumstance, in a physiological point of view, is, that the elder of the two brothers who survived, was quite deaf at the time of the accident; but the electricity, in passing through his body, scratched the inner part of the right ear, near the tragus and antihelix, and on the following day he recovered his hearing. Both of them, on becoming sensible, were seized with violent nausea and vomiting, after taking a few cups of tea; and during the succeeding twelve months, they experienced an extraordinary degree of drowsiness and depression. (Medico-Chir. Rev. for Jan., 1825, pp. 149, 150, from *Gazette de Santé*, taken from Schweigger's Journal, vol. xix., No. 2. Also, Quarterly Journal of Science, etc., for Oct., 1824, vol. xviii., pp. 190, 191, from *Bib. Univ.* 25. 318.) Taking the above-mentioned cases, in connection with the one which I have detailed on a preceding page, we are furnished with four well-marked examples of salutary effects resulting from severe shocks of lightning.*

In contemplating the foregoing phenomena, we are able to catch a faint glimmering of a beneficent purpose even in the terrific manifestations of this apparently destructive agent. We are so constituted, however, that these *crises* in the natural world impress almost every one with a feeling of inexpressible awe. The deep lowering gloom of the thunder-cloud, the overwhelming burst of the electrical explosion, the dazzling flash from which the steadiest eye shrinks, and the irresistible energy of the lightning which no earthly substance can withstand, speak only of something terrible and fearful, even independently of any personal danger which association may whisper. The present state of physical science does not enable us to perceive clearly and steadfastly those adaptations of the laws of atmospheric electricity to its uses in the economy of nature; to see in these formidable symptoms the means or the consequences of general good. Such a wise and beneficent adaptation most undoubtedly does exist; a clear and abiding perception of it, under the most general forms, must be developed by the intellectual labors of future generations.

The collateral facts which I am now about to mention, and the observations they have suggested, relate more immediately to the *purely electrical* phenomena which were exhibited, and I trust they may be appropriately embraced under the *collateral* clause in the title of this journal.

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* Since writing the above, my friend Edward P. Harnden, Esq., of this city, has kindly furnished me with the details of the case of a negro woman, who was struck down senseless by lightning during a thunder-storm in August, 1842, on the plantation of Mr. John S. Maxwell, of Bryan County, Georgia. For years anterior to the reception of the shock her health had been very bad, a progressive emaciation and feebleness, accompanied with pains in the lower portion of the abdomen, having undermined the powers of the system, and induced a condition approaching to chlorosis. The difficulty was evidently *sexual*, and probably arose from the protracted amenorrhœa which followed a painful delivery complicated by retention of the placenta. In the course of a week she recovered from the effects of the lightning, *since which period (two years ago) she has been a remarkably healthy and athletic laborer!* A *complete* history of this case was unattainable, but there can be no question concerning the *beneficial* effects resulting from the electrical shock, as indicated in the permanent restoration of health. It therefore constitutes the *fifth* instance of this kind.

Mr. Wm. Jones, an intelligent farmer, of Liberty County, Georgia, and an accurate observer of nature, informed me that he witnessed the phenomena attending this fearful and resplendent exhibition of lightning from his piazza, a situation about one mile and a half somewhat southwest from the theatre of its fatal explosion. About 2 o'clock, P. M., on that day (2d of July, 1843), his attention was drawn to a singular-looking thunder-cloud in the southeastern portion of the horizon. It extended up towards the zenith in an irregular pyramidal form to an elevation of about seventy-five or eighty degrees, the superior portion being surmounted by protuberances of ragged cumuli, resembling large heaps of cotton under the strong illumination of the sun. The base presented the dark greyish hue so characteristic of clouds highly charged with electricity. The sky was, of course, but partially obscured, permitting the sun to shine out brilliantly at the observer's station. Vivid flashes of lightning occasionally furrowed the thick cloud near the verge of the horizon, which, after a considerable time, were followed by those low and prolonged reverberations of distant thunder so familiar to the inhabitants of this latitude. At 3 o'clock, P. M., our informant was astonished at the sudden appearance of five or six electrical flashes of painful brilliancy, succeeding each other so rapidly that the eye could scarcely distinguish the intervals,—apparently proceeding from the earth in a northeast direction to the apex of the cloud, or *vice versâ*,—followed in a few seconds by a single but awful crash of thunder, indicating the comparative proximity of the strokes. The equilibrium between the earth and the cloud seems to have been completely restored at this instant, for no further manifestation of lightning or thunder was observed in the hemisphere; the cloud soon dissipated without precipitating rain, and, in a short time, the atmosphere resumed the most perfect tranquillity. Such were the phenomena presented to the distant, calm, and dispassionate observer; and it will be seen, that they accord in a striking manner with the account gleaned from those who witnessed the fatal catastrophe, as detailed in the beginning of this paper. Having already noticed only a *part* of the effects resulting from this electrical explosion, as manifested on the five negroes who were struck down. I now proceed to examine the circumstances connected with the damage sustained by lightning at two points quite remote from the first scene of action, and which, as near as can be ascertained, must have been occasioned by *simultaneous* strokes.

A cotton-house, situated *one mile* south of the spot where the persons were killed, was struck apparently at the same instant, ignited and burnt down; and an ox, while grazing in an open pasture, distant, in a direct line from the same point *three miles*, and in a direction north 30 degrees west of the magnetic meridian, was struck dead!! At the position where the animal was killed, the sun was shining brightly,* *no rain fell*

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* The circumstance of thunder and lightning from a cloudless sky is often mentioned by the ancients, and was considered by them as the highest omen. Herodotus (B. C. 484-440) informs us that when the horse of young Darius, son of Hystaspes, was led out, it instantly began to neigh, which, though the sky was remarkably clear, was succeeded by thunder and lightning. This being considered a favorable prodigy, he was immediately proclaimed king (Herodot., Book 3, c. 86). Horace (B. C. 65-8) having observed thunder and lightning in a cloudless sky, composed an ode on

either before or after the stroke, and the earth exhibited *no marks* of mechanical violence. The absence of rain is certainly a remarkable phenomenon, and the complete authentication and establishment of the facts in this instance have enabled me to furnish an affirmative answer to the following interrogatory propounded by the President and Council of the Royal Society in their elaborate instructions for the late scientific expedition to the Antarctic Regions under Capt. James C. Ross, viz. :—" Does lightning ever happen without rain *in the immediate point where it originates*, or at least without a rapid formation and increase of cloud at that point ?" (Vide London and Edin. Phil. Mag., 3d Series, vol. 15, p. 196, 1839.) It has already been observed, that the ground where the negroes were killed presented no appreciable indications of the disruptive effects usually attending strokes of lightning; and, upon close inspection, no trace of injury could be detected on the mulberry tree, although about a dozen stalks of Indian corn on the north side of it were blasted. Indeed, the tree does not appear to have sustained the slightest injury; for, in June last, nearly twelve months after the accident, *it was loaded with fruit*. No scheme of persuasion can induce the negroes to touch this luxuriant crop of berries; an inveterate superstitious awe protects it as effectually as though the tree was under the special guardianship of the powers of misfortune!

Several circumstances attending these electrical phenomena are worthy of consideration.

1st. The fact of the lightning having *struck several points so distant from the mass of the cloud*, and the apparent theatre of its former operations.

2nd. Having taken place *anterior to the fall of rain at any point; and without producing even a drop at the most remote station.*

3rd. The extremely *large area of its operations*, extending along a chain of posts, nearly coinciding with the meridian, for a distance of *four miles.*

4th. The *immense length of the strokes;* especially when it is considered that the transilience was accomplished through strata of air which must have been *comparatively dry.*

5th. The comparatively *slight mechanical effects produced on the surface of the earth;* at least, at the two positions most remote from the base of the cloud.

Taking all the phenomena into consideration, I am disposed to think—if permitted to hazard an opinion in regard to such a complex matter—that the following explanation will reconcile all the facts. Let us suppose that the two extremities of this elongated cloud, highly charged with electricity, hung down towards the earth; they would put a considerable area of the earth's surface vertically under each end, in the opposite electrical state by induction; and if a discharge or succession of discharges should suddenly take place from the remote extremity of the cloud, the equilibrium would be instantly restored by a flash or series of flashes ascending from that point of the earth which is under the proximate end. Or we may suppose that there were two clouds differently electrified, the distance from each other being too great to permit the discharge through

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it. as a circumstance which staggered his Epicurean notions, and impressed him with awe and veneration (Lib. 1, Ode 34). On the contrary, Lucretius (B. C. 96-52) positively states that thunder in a serene and cloudless sky is a physical impossibility (*De Rerum Naturâ*, Lib. 6, 245 et seq.)

the intervening air, the lightning might, as suggested by the famous Italian philosopher, Sig. Beccaria, take a circuitous route, first darting to the earth, and thence to the opposite cloud, the earth acting the part of a conductor by which the neutralization is effected. The former supposition, however, seems most in accordance with the observed appearance of the clouds, as they did not appear to present any distinct intervals of separation. As the surface of the earth which would, under such circumstances, be subjected to the inductive action, might be quite extensive, it may readily be imagined that several strokes might ascend simultaneously from different portions of the area. Such a phenomenon would be more liable to occur, when, as in the example before us, the earth was excessively dry: as such a condition of things would interfere with that rapid convergence and concentration of electricity from all parts, which must attend the restoration of equilibrium by a single stroke. The points from which the lightning would ascend, might very probably be determined more by the relative conductibility of the inferior strata, than the elevation of protuberances on the surface of the earth. The extensive researches and experiments in atmospheric electricity of Mr. Luke Howard, of London; Mr. Andrew Crosse, of Broomfield; and others, have shown that a thunder-cloud is composed of concentric zones of electrified vapor, diminishing in intensity in the ratio of the square of the distance, from the centre towards the circumferential area of the cloud. If the *central area* is positive, the first zone is negative, the second positive, and then follow other zones in pairs. Directly below this cloud, according to the laws of induction, there must exist, on the surface of the earth, a counter charge, or *nucleus*, of opposite or negative electricity, with its co-ordinate zone of positive, and with other zones of electrified surface, corresponding in number to those of the cloud above, although each is oppositely charged. (Vide, Drs. Hodgkin and Fisher's translation of W. F. Edwards " On Physical Agents," Appendix; also, H. M. Noad's " Lectures on Electricity," &c., new edition, Lond., 1844, p. 92-95.) Such an arrangement seems to afford an explanation of the circumstance, that a shock is sometimes felt at two points, whilst none is experienced at an intervening station; the latter being situated at a neutral or non-electric point in the system of concentric zones.

As there was but a single violent detonation heard, the discharges must have been nearly simultaneous; and that there was more than one stroke, is manifest, both from the effects produced at remote stations, and from the observation of Mr. Jones. The velocity of the electric fluid (if it be a fluid) is so great, that it is impossible to ascertain from observations on the flash, whether the lightning ascends from the earth to the cloud, or descends from the cloud to the earth. Professor C. Wheatstone, of London, having, with remarkable sagacity, availed himself of a happy combination of principles drawn from three separate branches of physical science, has been enabled to determine that it is transmitted at the rate of nearly two hundred and eighty-eight thousand miles per second—a velocity which greatly transcends that of light, and at which it would perform the tour of our planet twice in the time it requires to wink with our eyelids! There are, however, circumstances attending the discharge, from which, occasionally, the direction may be inferred. In the instance under consideration, I think the phenomena indicate that the discharge was upwards. In the direct downward stroke, the electrical energy is usually concentrated on a particular point, thereby acting with almost inconceivable intensity; and even in those cases in which the stroke divides on approaching a terrestrial object, the theatre of its operations is limited to a circle of a few hundred feet in diameter; while its concentration is indicated by the obvious mechanical effects produced. In the example before us, the lightning appears to have ascended from a considerable area around each focus of destruction, in the form of conical brushes, which became concentrated into distinct streams soon after leaving the ground, and thus continued to the apex of the cloud. Hence the absence of any violent mechanical injury to the tree and the ground in the neighborhood; and hence also, the blasting of the corn, situated some distance from its base. The electricity was so diffused on leaving the earth, that it did not kill the tree, although human beings and more delicate plants were destroyed.

A person may be killed by lightning when the explosion takes place twenty miles off, by what Lord Mahon, afterwards Earl of Stanhope, called the returning stroke. When the electricity has been expelled from a portion of the earth—and, of course, from conducting bodies thereon—by the approach of a highly electrified cloud; if the latter is suddenly discharged by a stroke to a remote cloud or a distant terrestrial object, the electricity will return to that portion of the earth with such impetuosity as to extinguish animal life by the violence of the shock. In such a case, the lightning and thunder must be remote, if at all sensible, because the electricity does not traverse the air at the spot where the returning shock is manifested. When the quantity of electricity is so great as to give rise to an upward stroke at the same time that the return takes place, it becomes converted into an example of the *first* arrangement I have previously supposed; and the nearly simultaneous occurrence of lightning and thunder is a necessary accompaniment. Signor Beccaria and Tiberius Cavallo assure us, that they have several times witnessed the phenomenon of lightning assuming "the form of a brush," and striking many objects at once. The latter remarks, that "this phenomenon may be imitated by presenting a conducting body to the negative conductor of an electrical machine." (T. Cavallo's Complete Treatise on Electricity, fourth ed., in three vols., vol. iii., p. 238, Lond., 1795.) Mr. O. H. Bryant, clerk in the State Prison, at Charlestown, Mass., has communicated the particulars of a stroke of lightning, which shocked several hundred persons on the 30th of July, 1829. The effects of this discharge were felt by three hundred individuals, and over a surface of 172,500 square feet, in nearly the same degree of intensity, without any permanent injury being sustained. (Am. Journal of Science and Arts, vol. xvii., pp. 193, 194, 1830.)

The dryness of the air, and the length of the strokes, were also remarkable phenomena in the instance under examination. Supposing the vertex of the cloud to have been a little *north* of the zenith at the station nearest the base of the same where the cotton-house was burnt (an assumption scarcely warranted by appearances), so that lines drawn from the latter to the most remote station where the ox was killed, and from the top of the cloud to the same point, would constitute the two equal sides of an isosceles triangle; then, the length of the stroke which caused the death of the animal must have been at least four miles! Or allowing three miles to be the mean distance of the lightning discharged in a track at right angles to Mr. Jones's line of vision, and extending through a vertical arc of 90° (assuming the summit of the cloud to have reached the zenith of this observer, which was not the case), it would give a chord of 4.2426 miles as the distance travelled by the electricity at one discharge! M. Gay-Lussac, from observations in mountainous districts, where the thunder-cloud is seen below the spectator, has ascertained that the striking distance frequently exceeds three miles. (Quarterly Journal of Science, &c., for Oct., 1825, vol. xx., pp. 172, 173, Lond., 1826, from *Ann. de Chim.*, xxix., 105.) Mr. W. Sturgeon concluded, from rather loose observations made at Woolwich, during a thunder-storm, that he saw flashes nearly six miles in length. (Lond. and Edin. Phil. Mag., third series, vol. v., p. 421, 1834.) When rain is descending in torrents, it greatly facilitates the transmission through long striking distances. Moreover, the inferior density of the upper regions of the atmosphere, and the thin aqueous vapors which are floating there during the falling of rain, likewise tend very much to facilitate the transmission of electricity. Buildings, trees, and other tall objects are not usually struck by lightning before the supervention of rain, the dry dense air offering too great a resistance to be transpierced by the electric agent. In the present case, no such meteorological causes co-operated to assist in overcoming the restraining or coercive influence of the circumambient atmosphere.

Mr. Patrick Brydone, of Coldstream, Scotland, has recorded the particulars of a disastrous stroke of lightning, in the 77th volume of the Phil. Trans., which bear some points of analogy to the one under consideration, although in some respects quite dissimilar. On the 19th day of July, 1785, a cloud was observed to form in the southeast, accompanied with several flashes of lightning, followed by rolling thunder at a distance, which sound occupied from 25 to 30 seconds in traversing. Suddenly Mr. B. and his family were alarmed by a loud report resembling the firing of several muskets, for which they were not prepared by any preceding flash. The clouds immediately began to dissipate, and there was no further appearance of lightning or thunder. This explosion killed a man and two horses as they were ascending the hill soon after crossing the Tweed at a ford. A shepherd on the opposite bank of the river, and an eye-witness of the accident, corroborated Mr. Brydone's impression with regard to the absence of a flash; but asserted that he saw the dust rise at the place. The earth was excessively dry, and no rain fell either before or after the fatal explosion. The wheels of the cart bore marks of fusion, and behind each of them, was found a hole in the earth 20 inches in diameter, the centre of which was exactly in the tracks, and corresponding in situation to where the fused part of the iron must have been at the time of the shock. Mr. Brydone notices several other remarkable phenomena, probably of electrical origin, which were observed in the neighborhood on the same day, and only a short time previous to the fatal occurrence. About a quarter of an hour before the explosion took place, a shepherd in a vicinal field, saw a lamb drop down dead, and said that he felt at the same time as if fire had passed over his face. No thunder was heard, except at a great distance,—no lightning was seen,—the ground was not torn up,—nor was any dust observed to rise. A woman making hay near the banks of the river, suddenly fell down, and called out to her companions, that she had received a violent blow under the foot, and could not imagine from whence it came. Several other less obvious and striking circumstances are noticed in the account. (Vide Cavallo, op. cit., vol. 3, p. 207–219.) Shortly after Mr. Brydone's paper was read before the Royal Society, Lord Stanhope presented a communication to the same body, in which he endeavored to explain the various phenomena detailed in the account, by means of what he called the electrical returning stroke. He supposes that there were two clouds, one above the other (the upper one being vastly larger than the one near the earth), charged with the same kind of electricity. Now let the remote end of the upper cloud suddenly discharge itself into the earth; the lower one must instantly discharge its electricity into the upper one, at a point directly over the assumed position of the man and horses:—the electricity which had been expelled by its influence from conducting bodies below it, must suddenly return into them, producing a violent shock, and even death. The flash between the two clouds occasioned the loud report, but was invisible, because a thick thunder-cloud interposed between the stroke and the observers. (Cavallo, op. cit., vol. 3, p. 223–232.) This explanation is certainly very ingenious, but is far from being satisfactory. A very natural objection grows out of the consideration, that the quantity of electricity which had been expelled from a man, two horses, and a cart, by the proximity of a cloud, should have produced such violent mechanical effects in returning. Life might be extinguished by a shock thus produced; but the disruptive effects indicate the passage of accumulated electricity. It is true that Lord Stanhope's hypothesis seems to be the only one reconcilable with the want of light; but the fact of the man's body being marked with a zigzag line as high up as the chin,—his hat being torn to pieces, and his hair adhering to fragments of it,—appears to throw some doubt on the accuracy of the observations with regard to the absence of a flash:—for the electricity could scarcely have accomplished all this, without passing from the crown of his head into the atmosphere above. The other less violent, but no less remarkable phenomena, noticed by Mr. Brydone, may, I think, be satisfactorily explained by means of Lord Stanhope's theory of the returning-stroke. The co-existence of lightning and thunder in the example detailed by me, constitutes the most manifest difference from the foregoing instances.

To recur once more to the circumstances attending the violent shock which prostrated and killed the several negroes. It will be recollected, that the two survivors were standing between the base of the tree where a child was killed, and an adult woman, who met the same fate. The question naturally arises, why were they not subjected to an equally destructive shock? Those who survived were actually nearer the tree than one who was instantly struck dead. That they were acted upon by a powerful shock, was evident from the injury sustained by their clothes. There can be no question that their security was owing to a comparatively insignificant circumstance, but one which beautifully illustrates the laws of electrical distribution. The under-clothes of the surviving women were saturated with perspiration, having just come out of a close room, where they had been attending religious services. The other three, who were killed, had been in the open air for a length of time, and were not in a like condition with respect to moisture. The recovery of the former was doubtless due to this circumstance; for the electricity was thereby conducted along the wet clothes and damp surface of the skin, which in the other instances traversed the interior of the bodies with destructive disorganization. This opinion is additionally fortified by the fact, that the clothes of those killed were not torn, neither did they exhibit any very obvious marks of external injury on their bodies.

In general terms, the liability of electricity to produce physical injury, is dependent on three variable elements; the energy of the electro-motive apparatus, the conductibility of the medium, and the irritability of the organs that receive the impressions. Hence, *cæteris paribus*,—the animal body being a tolerably good conductor,—security might be obtained either by perfect insulation or by an entire covering of a very good conductor.* In the one case the electricity would not approach the system; in the other it would confine itself to the covering. Thus, a church at the village of Châteauneuf, in the department of the lower Alps, in France, was struck by three successive strokes of lightning, on the 11th of July, 1819, during the installation of a new Rector. The company were nearly all thrown down, nine were killed, and eighty-two wounded. The priest who was celebrating mass, was not affected, on account, it is believed, of his silken dress acting as an insulator. (*Annales de chimie et de physique, tom.* 12.) On the contrary, Dr. Franklin found that he could destroy a dry rat by an electrical shock, when he could not hurt a wet one. (Letters to P. Collinson, 3d Lond. ed., pp. 36 and 47.) An interesting case is related by the Rev. Edward Hitchcock, where a man by the name of John Williams, of Conway, Mass., owed the preservation of his life to the circumstance of having had his garments slightly wet by exposure to rain, a few moments before he was struck senseless by a tremendous stroke of lightning. (Vide Am. Journal of Science and Arts, vol. 5, p. 121–125. 1822.)

There has been some diversity of opinion among physiologists as regards the cause of death by lightning.† In cases where no visible marks of injury are exhibited, Sig. Beccaria supposed that the electricity did not actually touch the body, but only produced a sudden *vacuum* in the vicinity, and the air rushing violently out of the lungs to supply it, the breath is irrecoverably lost. He endeavored to sustain this weak position by asserting that the lungs in such cases were always found in a state of collapse; but this statement has been successfully controverted by the observations of Dr. Priestley and others. (Vide Hutton's Math. and Phil. Dic., Art. Lightning. Lond., 1796.) John Hunter thought that there was an instantaneous and total destruction of the vital principle in every part of the body; and hence the flaccidity of the muscles, the fluidity of the blood, and the rapid tendency to putrefaction. On the other hand, the experiments of Fontana and Brodie on animals, and the observations of Parkinson and Macauley on persons killed or injured by lightning, seem to go far towards demonstrating that the effects of electricity are expended chiefly in disturbing or destroying the functions of the brain. In cases of the destruction of life by violent electrical shocks, it appears probable, that there is a disturbance of the affinities between the component elements of the body, and the consequent immediate abolition of the vital properties of the tissues (especially of the nervous, which is most affected by this agent); and this may take place without any perceptible change of structure. In a thunder storm which took place in London in 1839, the vitality of a large portion of the eggs, which were undergoing artificial incubation in a machine for the purpose, was destroyed. On examination the yolk-bag was found to have burst in the more advanced; and the vessels of the vascular area were perceived to have been ruptured in those at an earlier stage. (Carpenter's Principles of Gen. and Comp. Phys., 2d ed., Lond., 1841, pp. 181–182, par. 226, note.) A writer in the American Farmer says, that he had two broods of goslings killed by a stroke of lightning which struck in a field, within less than half a mile of his dwelling; and that a nest of eggs was also destroyed at the same time. The same result is said to have been produced by the cannonading at the battle of Bunker Hill, on the goslings in a yard about six miles from Charlestown! (Southern Agriculturist, Vol. 4, No. 7, July, 1831, p. 391.) The latter seems rather calculated to justify a high degree of skepticism and incredulity; for it is very clear, that the detonation of gunpowder could only affect delicately organized birds by means of the mechanical violence arising from the powerful undulations excited in the adjacent air; and it is hardly conceivable, that sounds proceeding from such a distance, could have any influence on life.

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* The ancients appear to have had some obscure idea of the protection which metallic conductors afford against lightning. Herodotus (B. C. 484–440) relates that the Getæ, the bravest of the Thracians, were in the habit of throwing their arms into the air whenever it thundered and lightened, as if menacing their god Zamolxis. (Herodot., Book 4, c. 94.) In looking over the writings of Ctesias, of Cnidus (B. C. 401), the Greek historian and physician to Artaxerxes Mnemon, the Rev. J. J. Conybeare thinks he has found a curious anticipation of the use of conductors for lightning. Ctesias relates that a certain variety of iron is found in India, which, when fixed into the ground (πηγνυομενος εν τῃ γῃ), has the power of averting storms and lightnings (πρηστηρας). (Annals of Philosophy. New Series, vol. 4, p. 439, 1822, from Ctesian in app. Herodot. Wesseling, p. 860.)

† The Rev. Mr. John Lyon, of Dover, has recorded the circumstances attending the death of a man and four horses by a single stroke of lightning, during a thunder-storm which took place on the 14th of August, 1795. No external appearance of injury was observed on the animals: *the penis of each gelding was extended, and the female had emitted a considerable secretion from the genital organs.* Upon examination, *the hearts of three of the horses were found to be ruptured obliquely across the right ventricle*, without injuring the septum. The right carotid artery of the other, or fourth horse, was also ruptured; but the heart was not injured. The body of the man was not examined. (Vide Med. and Chirurgical Rev., from May, 1796, to May, 1797, vol. 3, p. 413 et seq. London.)

Mr. Patrick Paterson relates the case of a recruit in the 29th regiment of Light Dragoons, who died from gangrene of the stomach and dysphagia, supposed to have been brought on by lightning. (Vide Med. Facts and Obs., vol. 8, p. 111 et seq., Lond., 1800.) It is very questionable, however, whether the difficulty in this case arose from the effects of electricity; for the patient seems to have been doubtful whether the shock proceeded from a flash of lightning which dazzled his sight, or from an accidental movement of the carriage in which he was travelling,—so feeble and transient was the sensation.

So little is known concerning the laws which govern atmospheric electricity, that many apparently anomalous phenomena frequently present themselves, which seem to be inexplicable upon any acknowledged principles. Thus, there can be no question that electricity is invariably discharged in the direction of least resistance; yet lightning does not always select the most lofty objects near its path, even when they are comparatively good conductors. In the example related by Dr. Tilesius, already referred to, the vehicle was struck while passing along a narrow road embedded in the forest. In the case detailed by the Rev. Mr. Hitchcock, there were several Lombardy poplar trees (Populus dilatata) on the south-west side of Mr. Williams' house, 60 or 70 feet high, rising 30 or 40 feet above the dwelling; and one of them was not more than six feet from the spot where the lightning first struck. (Op. cit. supra, p. 122.) The case of Mr. Boddington and his lady, who were struck by lightning, in England, on the 13th of April, 1832, is in illustration of this point. The road at the spot where the carriage was struck, was so much hollowed out, that the bank was nearly as high as the top of the vehicle; and a very tall pear-tree, near an adjacent hedge, sustained no trace of injury. (Lond. and Edin. Phil. Mag. 3d Series, vol. 1, p. 196., 1832.) My own observation has furnished me with many analogous examples. Some of the most tremendous electrical explosions I have ever witnessed in this latitude, have been occasioned by the lightning striking in the open, flat rice-fields, and frequently in the neighborhood of tall, solitary cypress trees (cupressus disticha, Michaux.) A quarter of an acre of rice (oryza sativa) is often thus destroyed; but no mechanical effect is usually produced on the moist earth; probably in consequence of its high conducting power. Von Humboldt has made similar observation on the magnificent displays of electrical phenomena, which he witnessed in the intertropical regions of South America. There can be no doubt that currents of air loaded with aqueous vapors, the character of the geological substrata, and a variety of inappreciable meteorological conditions of the atmosphere, may determine the path of least resistance along which the discharge must be transmitted. A more intimate knowledge of the superior currents of air, and of the laws of distribution of the suspended vapors, would tend to elucidate these problems so complicated in appearance. To ascertain the laws of these aerial variations,—to discover the periodicity of these atmospheric oscillations,—it is essential that the observations should embrace a vast period of time to disengage the phenomena from numerous accidental perturbations. In illustration of the manner in which the fixed determinate laws of nature become eliminated from the most complex and irregular phenomena, by the application of the system of numerical averages to a vast number of carefully collected observations extending over a long period,—I will adduce the remarkable discovery of a cycle of eighteen years in the seasons of Great Britain, which Mr. Luke Howard has deduced from a series of meteorological records embracing a period of more than 36 years! It will be noticed that this cycle nearly corresponds with the period of the revolution of the lunar nodes; thus indicating that the attraction of the moon exercises some influence on atmospheric changes, although so obscured and hidden through the operation of foreign causes, as to be rendered cognizable only when our investigations have reference to the mean states of the atmosphere. The varying currents kept up by the action of solar heat and various local influences, tend to involve the problem in complexity; but on an average of years, it resolves itself into a cycle of eighteen years, in which the seasons appear to pass through their extreme changes in respect of warmth and cold, of wet and dryness. It is likewise shown by Mr. Howard, as well as by Sir J. W. Lubbock, that the moon's position in declination, has an influence on the barometrical mean and on the quantity of rain which falls, that is manifested in a gradation of effects which operates through the same cycle, but not in every year alike: there is a constant periodical variation of the variation itself. (Vide Lond. and Edin. Phil. Mag., 3d series, vol. 18, pp. 552, 553, 559. 1841. Also, vol. 21, p. 69, 73. 1842.) The pursuit of such philosophical researches, so admirably adapted for mathematical investigation, must constitute the most effectual method of opposing the torrents of shameless empiricism on the subject of predicting the changes of the weather.

Without doubt, the general principles which govern the discharges of the Leyden jar are identical with those of flashes of lightning; but, perhaps, electricians, in pursuing the illustration into its numerous details, have carried the analogy beyond its legitimate bounds. A great difference in degree exists in many points of the analogy. The comparative distance of the clouds operating in producing a great excess of electricity in them over and above what is expelled into the earth by induction; the greater area of the earthy disc operating to produce in it a very low degree of tension; and the inferior conductibility of the earth causing a maximum of resistance to the diffusion of the flash towards restoration of equilibrium. The stroke usually enters the earth at one spot, and is required for compensating a large area. The comparatively low conducting power of the earth greatly resists its diffusion, and induces a tendency to divide into several paths; and, possibly, some portion of it may be converted into free electricity by the return of that portion which had been expelled into the lower strata. (Vide, Abstracts of Mr. Charles V. Walker's papers on this subject, in Lond. and Edin. Phil. Mag., 3d series, vol. 21, pp. 63 and 310. 1842. Also, Notice of his Memoir, on the same, in vol. 22, pp. 490–492. 1843.)

However anomalous the phenomena of atmospheric electricity may appear on a superficial glance, yet a more attentive investigation of the subject must develope a stable and definite assurance that they are all harmonized and controlled by fixed laws, which are but formulæ, or simplified expressions of those conditions of action which nature has imposed upon everything terrestrial and cosmical. These, however, are El Dorado fields of research at present; and such is the complexity of the combinations of phenomena which are presented for analysis, that some time must elapse before philosophers will be able to obtain such general expressions for these laws as will lead them to the higher points of generalization. The sum of all the atmospheric phenomena, which give origin to the manifestations of electricity, is to be regarded as a collection of facts; and the great difficulty consists in isolating each of them, so that they may be stated, with clearness and distinctness, in a separate, concise and available form. Were we able to ascertain the changes which take place in the regions of the atmosphere with the same ease that the astronomer watches the motions of the planets, or the chemist observes the formation of a precipitate, the very multiplicity of these changes and the variety of the conditions under which they occur, would be of essential service in the determination of their laws, instead of being, as at present, sources of doubt and embarrassment. The boundaries of astronomical science have been pushed from small and obscure beginnings into the infinite in space, time and number; and so, ultimately, may man be able to look down, with the light of a more advanced philosophy, upon the seemingly capricious and varied phenomena of meteorology,—their multifarious combinations and complexities, their cycles and epicycles,—as he looks into the planetary world, and sees nothing but prospective arrangements, compensations, minute adaptations, comprehensive inter-dependencies, order and simplicity, where now there appears inextricable confusion.

Savannah, *August* 15*th*, 1844.

Art. II.—*Nature and History of Vital Statistics—being a Chapter from an unpublished Volume.** By the Editor.

Social physics, as the science of man has been designated by the distinguished M. Adolphe Quetelet, Director of the Brussels Observatory, is now the subject both of scientific and of popular attention; and to the cultivation of this department of knowledge, men of the highest endowments have devoted their lives. Believing that the numerous facts developed of late years, and which come under the head of the above title, pertaining as they do to physiology, would, if properly condensed, prove valuable to our readers, we shall make an effort to lay before them, from time to time, the treasures thus accumulated. The subject now chosen is one that comes strictly within the domain of medical science. Our readers, we trust, have, one and all, a taste for this kind of knowledge; and should such be the case, we shall feel amply rewarded for the labors of our researches.

Man's existence may extend to 100 years, or even more; but the doom of his death, though we know not the time nor the mode, is certain and irrevocable. As every human being, from the moment of his birth, carries in his bosom his own sentence of death, he has no guarantee from present circumstances to count the next hour his own; and this uncertainty as regards a solitary individual of the human race, so well expressed in the burial-service—"In the midst of life, we are in death"—is extended, in the popular thought, to the community at large—to mankind viewed in the collective masses of nations. It is now demonstrated, however, that mortality is subject to a law, the operation of which is not less certain and regular than that of gravitation. It is proved by observation that, in the successive rise of generations, in the gradual development of their energies, and the consequent process of decay, mortality and sickness observe fixed laws—that they are always the same under the same circumstances, and only vary in proportion as the causes favorable or unfavorable to health preponderate.

The physiology of the animal economy intimates that it was formed to exist in healthy action, during a period of three score and ten years; yet, in consequence of a defective organization, whether hereditary or acquired, or from the immediate agency of surrounding physical causes, every generation gives a certain ratio who fall sick at all ages, and of these a certain number die.

But in comparing the sanitary condition of different nations, the knowledge alone of the absolute mortality or morbility will not suffice; inasmuch as experience proves that, although these may be the same in two nations, yet the effect on the national strength and resources will depend upon the relative ratios in the periods of childhood, manhood, and old age. As the first and the last classes are mere consumers, while the second alone consists of producers, we see of what little importance children and octogenarians are, in estimating the national strength.

Mankind, studied in large numbers, possess certain common qualities, which vary according to determinable laws; as, for instance, the ratio of the sexes at birth, their weight at the same epoch, their gradual growth until the period of maturity, their attainment of a certain mean age, and their liability to death in the same ratio when exposed to similar causes; and the same remark applies to the development of the moral and intellectual qualities of man, and also of his propensity to crime. It is the enumeration and generalization of these facts that constitute what has been happily designated by Laplace, "Vital Statistics." Statistics, or rather the numerical method, is not unfrequently regarded as a mere substitution of figures for words; but this undoubtedly is an error. The difference is well expressed in the following remark: "The *sometimes* of the cautious is the *often* of the sanguine, the *always* of the empiric, and the *never* of the sceptic; but the numbers 1, 10, 100, 1000, have but one meaning for all mankind." But the substitution of figures does even more than this, for it is not only a language but a science. In the history of all sciences, it will be found that it was the introduction and use of accurate measures that forms the epoch between the period of obscurity and of a brighter development. It was by the gradual invention of instruments that astronomy shook off the delusions of astrology, and chemistry that of alchemy. The theory of definite proportions of the latter, like the theory of gravitation of the former, is a numerical theory. There is, of course, no certainty out of the pale of the pure mathematics, as probabilities pertain even to the most perfect of the mixed mathematical sciences; and the extent to which a science admits of the application of numbers, may be regarded as a fair measure of its certainty. It is only those sciences which deal with *unorganized* matter, and its relations and properties, that evince an acknowledged superiority in the exactness of their results. Thus astronomy is more perfect than chemistry, because it deals only with the *relations* of matter without reference to its *properties*. Now among the sciences which deal with the properties of matter, the most perfect is that of chemistry. It is surprising to see with what extreme certainty the chemist can analyze a compound body; and, on the other hand, having thus in his possession several forms of matter, which, in the present state of the science, are regarded as elementary, he may often reproduce the original compound at will, or combine them at pleasure, so as to create new compounds, the result of which he foretells with perfect certainty. Thus is calculation the very "soul of science;" for the chemist has arrived at sufficient certainty in his art, to be able to use in his synthesis an element rendered as pure as the same element previously procured in its purity by his analysis. But between the world of unorganized and of organized matter, there is an essential distinction; and it is over the former that the triumph of the chemist is limited. In the world over which life presides, however perfect the power of the chemist may be in resolving matter into its original elements, all his attempts at reconstructing it, with very few exceptions, are entirely baffled.

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* *The Development of Man's Faculties, and the Laws of his Mortality and Reproduction, viewed in their Relations to Hygiology.*

Now, this is just the point at which we have been aiming to arrive, in order to show why medicine, to which vital statistics, as constituting indisputably a part of general physiology, belong, has never become a perfect science. It is only the atomic affinities of matter that chemistry investigates, but matter is endowed with other properties which are still more important to man; and as these properties and relations of matter are the objects of sense, it follows that the sciences which deal with the former, as they are less simple and less easily submitted to measurement than the latter, are less perfect than those which comprehend merely the relations of matter. Now, as it is the province of medicine to examine the most complex properties of matter, in its most complicated form, which is that of organized structure, it must necessarily ever remain an imperfect science. Let us compare it, in this respect, with meteorology, which is wholly dependent upon the observations made by such instruments as the barometer, hygrometer, thermometer, anemometer, electrometer, etc.; and we find that the numerical measure thus applied to the principal elements of all atmospheric changes, affords results much more accurate and important than the physician can ever hope to obtain. Now, in medicine, the objects to be examined are, beyond comparison, infinitely more variable and complex; nor does it admit of the application of the most perfect instruments of calculation. As the complex phenomena of health and disease are made up mostly of elements which allow of no exact measure, the description must necessarily be clothed in the imperfect and the inexact language of the senses. Hence the source of all the knowledge to be obtained relative to the human body in health and disease, is to be found in the five following words—" *Ars medica tota in observationibus;*" but the term observation is here used in its enlarged sense of collecting facts, according to the method practised by Hippocrates and enforced by Bacon, and also of arranging and classifying them, and lastly submitting them to analysis. The imperfections of medicine as a science are consequently inherent in the subject itself.

" The physician, unlike the mathematician, is not the creator of his own science; unlike the astronomer, he has no simple relations of matter to deal with; he cannot, like the chemist, make any two things which he examines or uses identical; the objects of his study are more variable than the winds and tides, and the materials with which he works infinitely more difficult to adapt to their uses than the matter which the mechanic or the engineer presses into his service. In all his preliminary studies (with the exception of inorganic chemistry), in all his original inquiries, in all his practical applications, he encounters the varying effects and complicated phenomena of Life. The human frame unites within itself all that is most wonderful in contrivance and most elaborate in workmanship. Its structure as much surpasses the most skilful work of man's hands, as its functions do the play of his most ingenious mechanism, and its products the results of his most refined chemistry. That which he knows bears no proportion to that of which he is entirely ignorant; what he sees, he sees but darkly; much of what he does, he does but guessingly. He seeks for causes, but they elude his search; the vital principle which contains the solution of his difficulties baffles him at every turn; he strives, as it were, to seize it by force, but the violence which he uses defeats itself, and the tortured body dies that it may preserve the secret of its life. Such, and so inscrutable is the body in health; disease surrounds it with new mysteries."*

The employment of mathematics in medicine is far, however, from being wholly impracticable. Our present means of observation and present state of mathematical analysis, are still too imperfect to enable us to trace the elements of the human body through the cycle of organization; but these same insuperable obstacles are encountered even when dealing with the inorganic atoms of chemistry and meteorology. To the great questions of population, mortality, and national health, which belong equally to political economy and to medicine, mathematics have been applied with great success ; but we are obliged to admit that little of this progress is due to the medical profession. All the phenomena of the human frame, but more especially the physiological acts connected with reproduction, the development of man's faculties, and mortality, when examined and measured in a great number of individuals, it has been proved by observation, furnish a mean result equally correct with that of any other physical phenomena. Thus the actions, which spring from hidden principles in the organization, are found to be constant ; and more than this, even the accidents to which life is exposed are found to be the same. In comparing, for example, the number of male and female baptisms registered in England, during seven successive years, commencing with 1821, we find the number of boys baptized for every 1000 girls was, 1048, 1047, 1049, 1046, 1047, 1043, 1043. This constant return of the same phenomena as regards the physical and moral man, provided no violent change is experienced in society, as it is an important point to have it undeniably established at the outset of these investigations, it may be well to illustrate by additional examples. As regards diseases, it will suffice to give a few instances from the Fifth Registration of Births, Deaths, and Marriages in England, as presented in the following table ;

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* Brit. and For. Med. Rev., July, 1841; to which excellent Review, we are indebted for some others of the preceding remgrks.

	1838.	1839.	1840.	1841.
Pneumonia :—				
Total deaths,	17,999	18,151	18,582	17,997
Deaths to a million living,	1,219	1,200	1,209	1,154
Phthisis :—				
Total deaths,	59,025	59,559	59,923	59,592
Deaths to a million living,	3,996	3,939	3,897	3,822
Child-birth :—				
Total deaths,	2,811	2,915	2,989	3,007
Deaths to a million living,	190	193	193	193
Violent Deaths :—				
Total Deaths,	11,727	11,632	11,594	11,100
Deaths to a million living,	794	769	754	712

But even the conditions which seem to depend wholly on accidental causes, have the same constant recurrence, as is shown in the following table in reference to the recruitment of the French army.

NUMBER OF YOUNG MEN IN FRANCE WHO HAVE BEEN EXCUSED MILITARY SERVICE ON ACCOUNT OF BODILY INFIRMITIES.*

Causes of Unfitness.	1831.	1832.	1833.
Wanting fingers,	752	647	743
,, teeth,	1,304	1,243	1,392
Deafness and dumbness,	830	736	725
Loss of other limbs or organs,	1,605	1,530	1,580
Goitres,	1,125	1,231	1,298
Lameness,	949	912	1,049
Other deformities,	8,007	7,630	8,494
Diseases of bones,	782	617	667
Short-sighted,	948	891	920
Other affections of the eyes,	1,726	1,714	1,839
Itch, (?)	11	10	10
Scald head,	749	800	794
Leprosy,	57	19	29
Other cutaneous diseases,	937	983	895
Scrofulous affections,	1,730	1,539	1,272
Affections of chest,	561	423	359
Hernia,	4,044	3,579	4,222
Epilepsy (falling sickness)	463	367	342
Different other diseases,	9,168	9,058	10,286
Weakness of constitution,	11,783	9,979	11,259
Insufficient size of body,	15,935	14,962	15,078
Amount of whole class of certain age,	295,978	277,477	285,805

The reports of criminal justice in France show the same remarkable constancy as regards the annual perpetration of crimes, and their punishments, as appears from the subjoined table† :—

	1826.	1827.	1828.	1829.	1830.	1831.
Murders in general,	241	234	227	231	205	266
Gun and pistol,	56	64	60	61	57	88
Sabre, sword, stiletto, poniard, dagger, &c.	15	7	8	7	12	30
Knife,	39	40	34	46	44	34
Cudgels, cane, &c.	23	28	31	24	12	21
Stones,	20	20	21	21	11	9
Cutting, stabbing, and bruising instruments,	35	40	42	45	46	49
Strangulations,	2	5	2	2	2	4
By precipitating and drowning,	6	16	6	1	4	3
Kicks and blows with the fist,	28	12	21	23	17	26
Fire,	..	1	..	1	..	..
Unknown,	17	1	2	..	2	2

These results assuredly merit the attention of the philosopher; for it is here seen that even moral phenomena, apparently the most accidental or fortuitous, are reproduced annually in the same numbers. Aye, even murders, which are generally committed at the close of quarrels, without any premeditation, do not only present very nearly the same annual numbers, but experience further shows that the instruments used to accomplish the object bear like proportions in each year. Contemplate but for a moment the multiplied circumstances upon which each birth, each death from a particular disease, each fatal accident, and each murder, presented above, depends, and especially as regards the last, the concurrence of how many tumultuous passions in man is required in addition! Yet, strange to say, the moral and physical causes in operation were so constant, that the annual results are actually less fluctuating than the products of the soil, or even the mean temperature of the atmosphere!

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* Quetelet's Treatise on Man. Edinburgh edition, p. 109.

† Ibid., p. 6.

The same conclusion is most strikingly confirmed by the table relative to the French recruits. It is seen that, among the young men liable to serve as conscripts, nearly the same number must be annually exempted on account of deficiency in fingers and in teeth, or in consequence of deafness, goitres, short-sightedness, scald-head, epilepsy, insufficient size of the body, etc. The same constancy, according to M. Quetelet, is observed in the numbers of those exempted on account of being first-born, or orphans, or being the sons of widows, blind people, etc.; and equally unvarying is the annual number of those self-mutilated, in order to avoid military service, and those capable of reading and writing, and those who have had no instruction.

It is further added by M. Quetelet, that he knows from reliable sources, that the number of letters delivered at the post-office of Paris, is not only nearly the same annually, but that the same constancy exists in the number of letters forgotten to be sealed, or which, in consequence of illegible handwriting, insufficient addresses, etc., could not be delivered.

It is thus clearly established that moral phenomena, observed on a great scale, partake of the character of physical phenomena; and thus we see illustrated the fundamental principle, adopted as our motto on the title page,* that "*the greater the number of individuals observed, the more do individual peculiarities, whether physical or moral, become effaced, and leave, in a prominent point of view, the general facts, by virtue of which society exists and is preserved.*"

Believing that human actions are regulated by fixed laws, M. Quetelet, the distinguished Belgian philosopher, has nobly undertaken to develope the *Science of Man;* and these objects of scientific research, he considers, should be to inquire,—

"1. What are the laws of human reproduction, growth, and physical force—growth of his intellectual powers, and of his disposition, more or less great, to good or evil; the laws regulating the development of his passions and tastes; the mode of succession of the materials he produces or consumes; the laws of human mortality, &c.

"2. What influence has nature over man; what is the measure of its influence, and of its disturbing forces; what have been their effects for such and such a period; and what the social elements chiefly effected by them?

"3. Finally, can human forces compromise the stability of the social system?"

We assuredly concur with him in the opinion, that the solution of these questions would form some of the noblest and most interesting results of human research; and certainly, whatever has been accomplished in this department of human knowledge, at least so far as regards the development of the human faculties, is due mainly to the skill and acumen in applying the important science of numbers by the author of the treatise, "*Sur l'Homme, et le Developpement de ses Facultés.*"

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* This refers to the work at large, as similar references which occur hereafter will be understood by the reader.

"Man," says Quetelet, "is born, grows up, and dies, according to certain laws which have never been properly investigated, either as a whole or in the mode of their mutual reactions. Hitherto the Science of Man has been limited to researches, more or less complete, respecting some of its laws, to results deduced from single or insulated observations, and to theories often based on mere glimpses; and these constitute pretty nearly all the materials it possesses. It must be admitted, however, that for nearly two centuries various distinguished men have studiously inquired into the rate of reproduction and mortality of mankind; the differences which age, sex, profession, climate, and seasons, produce in regard of births and deaths, have been assiduously studied. But they have neglected to put forward, with sufficient prominence, the study of his physical development (*bodily growth*), and they have neglected to mark by numbers how individual man increases with respect to weight and height—how, in short, his forces are developed, the sensibility of his organs, and his other physical faculties. They have not determined the age at which his faculties reach their maximum or highest energy, nor the time when they commence to decline. Neither have they determined the relative value of his faculties at different epochs or periods of his life, nor the mode according to which they mutually influence each other, nor the modifying causes. In like manner, the progressive development of moral and intellectual man has scarcely occupied their attention; nor have they noted how the faculties of his mind are at every age influenced by those of the body, nor how his faculties mutually react."

The distinguished author does not, of course, here refer to the speculative sciences, by means of which all moral phenomena, prior to his time, had been investigated. Indeed, there are learned men, even at this day, who adhere to the old opinion, that as soon as the moral and intellectual faculties become objects of research, we must abandon the mode of inquiry pursued in the investigation of the other laws of nature. To them it seems absurd to attempt to reduce to precise laws, phenomena which are influenced by a cause so capricious as human volition. It is now, however, indisputably established, that all these facts are susceptible of numerical appreciation. It has been already shown that human actions are regulated by fixed laws. "Experience alone," says Quetelet, "can, with certainty, solve a problem which no *à priori* reasoning could determine. It is of primary importance to keep out of view man as he exists in an insulated, separate, or in an individual state; and to regard him only as a fraction of the species. In thus setting aside his individual nature, we get quit of all that is accidental, and the individual peculiarities, which exercise scarcely any influence over the mass, become effaced of their own accord, allowing the observer to seize the general results."

The remark made at the beginning of this chapter relative to the uncertainty of life, while that of masses can be calculated with all the certainty of the laws of gravitation, is equally applicable to man's physical and moral faculties. Hence the necessity of studying the masses, with the view of freeing our observations from all that is accidental or individual; and in direct proportion to the number of individuals observed, does the doctrine of probabilities show a nearer approximation to the truth. It consequently follows that, as these laws present nothing individual, their application to individuals is only within certain limits. In this respect, they stand relatively the same as the tables of mortality, from which, notwithstanding their general results enable assurance societies to calculate their annual profits, no one pretends to determine the precise period of any individual's death. A happy example in point may be here introduced. M. Quetelet has shown, as will be seen in the sequel, that the maximum of the energy of the passions occurs about the age of twenty-five; and in attempting to give an example of the analysis of this development, he spoke thus: "So that if there existed an art which, in its exercise, developed itself in a ratio with the passions, and without requiring preliminary studies, its maximum of development would occur about the age of twenty-five." To this reasoning, the Genevese philosopher, M. E. Mallet, opposes the following example.* "If there has been a writer who has shone brilliantly, and deeply impressed the public, by reason, not of his works and learning, but of the impulses of the passions, certainly Jean Jacques Rousseau is that man. Now, it was not before the age of forty, fifteen years later than the period signalized as the maximum one of his passions, that Rousseau commenced to write." To this M. Quetelet happily rejoins: "What would be the reply of the author now quoted, whose writings on population are justly esteemed, if I were to say to him in my turn, that the death of J. J. Rousseau did not take place till after the age of sixty-five years; that is to say, a long period after the epoch signalized by the law of mortality calculated for Geneva, and after he had long passed the average life of man? Must we then conclude that the table of mortality for Geneva should be rejected? What does one individual example prove in such matters?"

These remarks are here presented as introductory to the details to be presented relative to the development of man's faculties. "The laws," says Quetelet, "presiding over the development of man, and modifying his actions, are in general the result of his organization, of his education or knowledge, means or wealth, institutions, local influences, and an endless variety of other causes, always very difficult to discover, and some of which may probably be never made out." Besides, the laws pertaining to the social body change with the changes in their causes; and hence, as the law of mortality has experienced a change in the progress of civilisation, it follows that a corresponding influence must have been exercised upon the moral and physical condition of man. The causes, whether natural or disturbing, which influence human development, have been well studied by M. Quetelet; and, consequently, the study of the social body, which has been designated by Quetelet, *social physics*, is no longer left to a kind of empiricism; but we are now enabled to recognize the direct causes by which society is influenced, and even to determine the measure of that influence. It is shown, for instance, by the statistics of the French tribunals, as appears from tables already given, that the same crimes appear annually in the same order, with the most remarkable constancy. "There is a tribute," says Quetelet, "which man pays with more regularity than that which he owes to nature, or to the treasure of the state, namely, that which he pays to crime. Sad condition of humanity! We might even predict annually how many individuals will stain their hands with the blood of their fellow-men, how many will be forgers, how many will deal in poison, pretty nearly in the same way as we may foretell the annual births and deaths!"

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* Bibliothèque Universelle de Genève, July, 1835.

The positive views taken in these researches by M. Quetelet, relative to the social system, have startled some minds. By one class it is alleged that he has exaggerated the field of the exact sciences; and by another, it is contended that they lead to materialism. The former objection, it has already been shown, is completely unfounded; and as respects the latter charge, his being a materialist or a fatalist, he has been equally successful in refuting the objections brought against his mode of reasoning. More than this, he shows that he is neither a theorist nor a system-maker, but that his object is simply to arrive at truth, by the legitimate way of the examination of the incontrovertible facts furnished by statistical data. "If certain deplorable facts," he says, "present themselves, with an alarming irregularity, to whom is blame to be ascribed? Ought charges of materialism to be brought against him who points out that regularity?" The circumstance here referred to, is the fact of the remarkable constancy with which crime is committed, the evidence of which has already been adduced. "From the examination of numbers," he says, "I believed myself justified in inferring, as a natural consequence, that, in given circumstances, and under the influence of the same causes, we may reckon upon witnessing the repetition of the same effects, the reproduction of the same crimes, and the same convictions." It is shown, for instance, by observation, which has been confirmed year after year by statistical records, that it is, in the present state of French society, about the age of twenty-five when the propensity to crime, especially as regards murder, is at its maximum. To present the views of Quetelet upon this subject, in the clearest light, it will be necessary to make one or two more quotations.

"Name them as you will," he says, "the actions which society stamps as crimes, and of which it punishes the authors, are reproduced every year, in almost exactly the same numbers; examined more closely, they are found to divide themselves into almost exactly the same categories; and, if their number were sufficiently large, we might carry further our distinctions and subdivisions, and should always find there the same regularity. It will then remain correct to say, that a given species of actions is more common at one given age than at any other given age."

To the Edinburgh edition of his treatise "On Man," from which we quote, M. Quetelet has furnished a preface, in which he defends it from the objections brought against it subsequently to the issue of the original edition at Paris. He here shows "*that crime pursues its path with even more certainty than death.*" He remarks:—"Twelve years have elapsed since the data furnished by the tribunals of justice in France were collected with great care and exactitude, and since the ages of criminals were first marked; and, in each succeeding year, they have reckoned from about 7000 to 8000 individuals accused before the courts of assize; and it is still betwixt the ages of twenty-one and twenty-five, that, all things being equal, the greatest number of persons are to be found in that position. I have taken, for the same years, and for the city of Paris, the mortality of a period of ten years, and have found, that, though my observations included a much larger number of persons, and these pertaining to a much more homogeneous population, the mortality of the capital proceeded with less regularity than the crimes of the kingdom, and that each age paid a more uniform and constant tribute to the jail than to the tomb."

His conclusion, from these unerring facts, is thus expressed:—"Society includes within itself the germs of all the crimes committed, and at the same time the necessary facilities for their development. It is the social state, in some measure, which prepares these crimes, and the criminal is merely the instrument to execute them. Every social state supposes, then, a certain number and a certain order of crimes, these being merely the necessary consequences of its organization. This observation, so discouraging at first sight, becomes, on the contrary, consolatory, when examined more nearly, by showing the possibility of ameliorating the human race, by modifying their institutions, their habits, the amount of their information, and, generally, all which influences their mode of existence. In fact, this observation is merely the extension of a law already well known to all who have studied the physical condition of society in a philosophic manner: it is, that so long as the same *causes* exist, we must expect a repetition of the same *effects.* What has induced some to believe that moral phenomena did not obey this law, has been the too great influence ascribed at all times to man himself over his actions."

It is this annual reproduction of the same crimes, under the same social circumstances, which has excited the greatest alarm among a certain class, who ask—"What becomes of human free-will and free-agency?" As this is a question deserving of the most earnest attention, it will be best to present Quetelet's reply in his own translated words:

"Timorous persons have raised the cry of fatalism. If, however, some one said, 'Man is born free; nothing can force his free-will; he lies under the influence of no external causes; cease to assimilate him to a machine, or to pretend to modify his actions. Therefore, ye legislators, repeal your laws; overturn your prisons; break your chains in pieces; your convictions and penalties are of no avail; they are so many acts of barbarous revenge. Ye philosophers and priests, speak no more of ameliorations, social or religious; you are materialists, because you assume to mould society like a piece of gross clay; you are fatalists, because you believe yourselves predestined to influence man in the exercise of his free-will, and to direct the course of his actions.' If, I say, any one held such language to us, we should be disgusted with its excessive folly. And wherefore? Because we are thoroughly convinced that laws, education, and religion, exercise a salutary influence on society, and that moral causes have their certain effects. Am I a fatalist, then, when I declare that you have greater reason for so thinking than you had imagined? That is the real state of the question; we differ only about degrees. Which of us is in error? To determine this, it is necessary to examine our motives for conviction. Mine, like yours, rest first of all on observation. We both call in experience to the support of our opinions; but, in your case, the experience is based on vague uncertainties, whilst I, more circumspect, strive never to lose sight of those scientific principles which ought to guide the observer in all his investigations. My aim is not to defend systems, or bolster up theories: I confine myself to the citation of facts, such as society presents to our view. If these facts be legitimately established, it follows that we must accept of and accommodate our reason to them.

"Now, what do these facts teach us? I repeat, that in a given state of society, resting under the influence of certain causes, regular effects are produced, which oscillate, as it were, around a fixed mean point, without undergoing any sensible alterations. Observe, that I have said *under the influence of the same causes;* if the causes were changed, the effects also would be necessarily modified. As laws and the principles of religion and morality are influencing causes, I have then not only the hope, but, what you have not, the positive conviction, that society may be ameliorated and reformed. Expect not, however, that efforts for the moral regeneration of man can be immediately crowned with success; operations upon masses are ever slow in progress, and their effects necessarily distant."

In these researches, we behold the first successful attempt to apply the art of calculation to the social movements of the human being. Among the remarkable truths developed, it will be seen that both the intellectual and moral faculties of man have their laws of development; and hence, among the most interesting parts of the science of observation, as applied to anthropology, will be found the analysis of intellectual man through his productions, and of moral man through his actions. The time has fortunately arrived for the examination of man through his moral anatomy, with the view, when the real sources and amount of the evils under which he labors, shall have been discovered, of providing the proper remedies.

"In respect to the charge of materialism," it is happily remarked by Quetelet, "it has been reproduced so often and so regularly on every occasion when science attempted to make a new step, and when the spirit of philosophy, breaking through its ancient barriers, attempted a new road, that it seems almost superfluous at the present day to reply to it, the more especially that the fanatical spirit is no longer backed with chains and tortures."

It is surely no evidence of a tendency to materialism, for man to employ the noblest of his faculties, in the endeavor to determine the sublimest laws of the universe. In the eye of the modern astronomer, the globe inhabited by man, and which was regarded by the ancients as his universe, is but a grain of dust floating in the immensity of space; and does not this substitution of our magnificent solar system, with the inseparable associations of the mighty wisdom that presided at its formation, and which continues to maintain this revolving system of unnumbered worlds, give us a nobler idea, correspondently, of the majestic power of Divinity? And though the comparative insignificance of this floating grain of dust, a large portion of whose inhabitants with their monuments resulting from twenty ages of labor, may be, in a moment, swept into ruins by a tempest, an inundation, or an earthquake, may cause man to feel humbled in his animal pride; yet, in surveying this augmented knowledge in astronomical science, his pride of intellect may justly feel exalted in the highest degree! In reference to this harmony of creation, Quetelet remarks: "Would it not be an absurdity to suppose, that, whilst all is regulated by such admirable laws, man's existence alone should be capricious, and possessed of no conservative principle? We need not hesitate in asserting that such a supposition, and not the researches that we propose making, would be injurious to the Creative Power."

With these remarks upon the *nature* of Vital Statistics, it may be well now to proceed to a consideration of the science, *historically.*

In the history of past ages, a striking defect is the absence of statistical knowledge. As the maintenance of peace and good order depends more upon the social condition of a country than upon its political state, history, instead of being scarcely more than a record of the actions of a government, ought to present the actual aspect of a country both socially and politically. This is obvious enough when we consider that the great object of government is the well-being of the community. Indeed, it was numerical analysis applied to governmental objects that first bestowed the true character of a science upon political economy. Hence the study of statistics, as regards the light shed upon man's social relations and political condition, as well as the elucidation of his natural history in health and disease, is now justly regarded as highly valuable and instructive.

Statistics, from the German, *staat,* properly speaking, means the science of states, being nearly synonymous with the terms "political economy," "political science," "social science." The term *scientia statistica* seems to occur for the first time in an historical work by Achennal, Professor of History in Göttingen, published in 1749. As statistics, properly viewed, is merely the application of numbers as a means of comparison in all the exact sciences, their employment cannot be regarded as a new method of investigation: but from this period forward every application of what constitutes but the numerical method in the service of the various sciences of observation, in which it had never before been employed, as political economy or medicine, was dignified with the sounding title of *statistics.* Hence, statistics, which will doubtless continue to be viewed in this light, may be regarded as a science so modern that it cannot be dated further back than the beginning of the current century. It is true that some defective data for estimating the population at periods more remote, have had their origin in the purpose, among various governments, of apportioning the quota of taxes or of soldiers to be raised. Of this character, for instance, have been, in England and some other countries, the poll tax, the income tax, the hearth tax, and the doomsday book.

In view of the utilitarian character of the present age, the pursuit of statistics in all its various applications, need not excite our surprise; but when we look back to the palmy days of the Roman Empire, comprising the greater part of Europe, the whole northern border of Africa, and stretching far into Asia, and find periodically laid before its Senate, the fullest details relative to the population, wealth, and domestic relations, both at home and in the most remote provinces, we certainly may feel surprise. At the same time, however, we may cease to wonder at the greatness attained by this extraordinary people. By Servius Tullius, for example, an accurate census of the people, with a valuation of their property, to be taken every five years, was instituted. He ordained that every Roman citizen should, upon oath, take an estimate of his property, and that he should state his place of residence, his own age, the names of his wife and children and their ages, and also the number of his slaves and freedmen; and all this information was required under the penalty of a confiscation of goods, and of being scourged and sold as a slave, as one deemed no longer worthy of freedom.

How valuable would such a return now be, as an exposition of the social condition of this people! But the Roman historian, dazzled by the false glare of military glory, deemed it beneath his notice to chronicle the effects of social institutions! The Roman censuses that have come down to us, according to Smith's Dictionary of Greek and Roman Antiquities, "refer only to those of man's estate, or able to bear arms."

The same work says that the census at Athens seems to date from the constitution of Solon, and that similar requisitions took place in other states of Greece. There is one document, however, regarded as authentic, recorded by Domitius Ulpianus, Secretary to the Emperor Alexander Severus, which has been already introduced to the notice of the reader. By this census, according to Ulpianus, registers of population, sex, age, disease, and death, were kept during a period of a thousand years, that is, from the time of Servius Tullius to Justinian.

We are told by Livy that a similar survey of the persons and estates was ordained to be made in the provinces,—a fact that will call to the mind of the Biblical reader, that Joseph, when "there went out a decree from Cæsar Augustus, that all the world should be taxed," went himself, with Mary his espoused wife, from Nazareth to Bethlehem, to be taxed; and that while there, in the city of David, the Saviour was born.

As regards modern statistics, it may be justly considered as a subject of honest pride to every American, that at the close of our Revolutionary war, when neither England nor France had counted her numbers, our youthful Republic, boldly basing the principle of representation upon an actual enumeration of the people, proclaimed to the world a Constitution, declaring that "Representatives and direct taxes shall be apportioned among the several States, which may be included in this Union, according to their respective numbers, which shall be determined by adding to the whole number of free persons, including those bound to service for a term of years, and excluding Indians not taxed, three-fifths of all other persons. The actual enumeration *shall* be made within three years after the first meeting of the Congress of the United States, and within every subsequent term of ten years, in such manner as they shall by law direct."

This was certainly a bold measure, characteristic of the sanguine temperament of the times, when we recollect the then non-existence of population returns, except the most vague, even in the most civilized portions of Europe; and we find that, in accordance with the undoubting belief in the feasibility of procuring the requisite returns, the enumeration was actually effected in 1790, the limit prescribed by the Constitution.

In England, it is not until 1801, that we have an example of an actual census, notwithstanding a bill to that effect was, in 1753, introduced into Parliament. It was in the year 1780, that Dr. Price's celebrated treatise on annuities appeared, in which it was maintained that the population of England, estimated at less than five millions, was decreasing; but it was proved, by the census of 1801, that England must have had, at that period, a population exceeding seven millions. In France, it was not until 1817, that a regular census was taken; and in Russia, a census taken every three years, comprising a register of births and deaths, was instituted as recently as 1820.

In the prosecution, however, of this great subject of the development of the laws of population, during the last fifty years, it is with regret that we are obliged to confess that our own country has fallen immeasurably behind those of Europe. Up to this day, with the exception of the early parish registers of some towns of New England, we are wholly destitute of a registration of births, deaths, and marriages, save some imperfect data furnished by the States of Massachusetts and New York. In England there have been registers of these events, in connection with the church, kept as far back as 1538; and these, notwithstanding, far from being complete or accurate, have served many useful purposes. In Scotland and Ireland, however, and more especially in the latter country, these parish registers, from various causes, are so defective, as to be entitled to no dependence as regards statistical results. In many countries of Europe, however, parish registers of births, deaths, and marriages, have been kept for perhaps a century and a half back, which have served, in an eminent degree, to determine the laws of population. Independent of those just referred to in England, Scotland, and Ireland, they are found in Norway, Sweden, Russia, Prussia, Holland, Germany, France, Spain, Portugal, and other countries. At Geneva, they have existed since 1549, including a registration of the disease causing death. In Germany, they seem to have been introduced even earlier than in England, for extracts from the Augsburg mortuary registers, which go back to the year 1501, are given by Süssmilch. It was about the beginning of the seventeenth century, that these registers were established throughout Europe generally. Even Mexico has a registration of births, deaths, and marriages, the trustworthiness of which is confirmed by Humboldt.

It was in 1592, that the London bills of mortality, containing the records of the baptisms and deaths, were begun; but it was not until after the plague of 1603, that they have been kept regularly.

But the French have a system of registration, which, compared with that established by England in 1837, seems even more complete; and this is part of that grand system of laws, which, known under the appellation of the *Code Napoleon*, will serve to elevate this great name even higher than the point bestowed by its associate military achievements. This system of registration, apparently so burthensome in the operation of its minute details, is fully carried out not only in the 40,000 communes of France, but also in those parts of Belgium and Prussia, which at the period when the "Code" went into operation, lay within the jurisdiction of France. In Spain, the registration is, in some respects, even more full and perfect than in France; and in Austria, some of these requirements are exacted under heavy penalties. A noble example, however, was set by England in 1837, by establishing the "Act for registering births, deaths, and marriages," including a registration of the causes of death. Voluminous annual reports have since regularly appeared; and this national system of registration, in the importance of its results, has already repaid, more than ten-fold, the trouble and expense that it has involved; proving alike invaluable to the philosopher, the physician, and political economist, to the statesman and legislator. Its utility has been sufficiently established, on the ground alone that it has developed the true laws of population and of mortality in connection with the value of life annuities and insurances, besides answering such other purposes, as facilitating the legal distribution of property by proving the connection of families. Moreover, as the deaths and their causes are scientific facts, admitting of numerical analysis, and as medicine, like the other natural sciences, is beginning to substitute numerical expressions for vague conjectures, the registration has also already afforded rich contributions, both as regards the practice and the principles of medicine. The doctrine of averages thus applied has been not unaptly styled the mathematics of medical science. We may thus study the laws of vitality, and the variations of these laws in the two sexes at different ages; and we may also determine, as regards the production of disease and consequent death, or the improvement of public health, the influence of climate, comprising locality, seasons, and all other physical agencies, as well as that of occupation and civilisation. Much light will thus be thrown upon many of the most interesting questions of social statistics. Nor are these data of value alone as regards the present day, but they will serve as the means of comparison in ages to come. Seeing the vast advantages that would necessarily result from a similar registration in the United States, we were early impelled to make an effort toward its introduction; and it was this motive mainly that first led us to read the paper before the New York Historical Society, which finally grew into the present volume. It may be well, therefore, to adduce several additional striking facts relative to the advantages of legislation in our own country.

It was well remarked by an eminent English jurist, "that it appears to him fully as necessary for the preservation of the rights of individuals to preserve a register of births, deaths, and marriages, as it is to preserve a register of deeds."

M. Adolphe Quetelet, Director of the Brussels Observatory, says—

"It is a subject of wonder to every intelligent stranger, that, in a country so advanced as England, with so many illustrious persons occupied in statistical inquiries, and where the state of the population is the constant subject of public interest, *the very basis on which all good* legislation must be grounded, has never been prepared."

This was, of course, before the existing admirable Registration act.

Lastly, it is thus remarked by John Finlaison, Esq., Actuary of the National Debt Office of England, who resorted, for a special purpose, to the public registers of Ostend, in Flanders:

"My attention was drawn to the extreme precision of their system, which, I believe, is precisely the same as prevails in France. * * * The town clerk stated to me that it was impossible for any person in their country to lose his inheritance, because he and his ancestry could be traced back with the utmost certainty for any number of years."

Now, these remarks are equally applicable to our own country; and, in illustration, the following political example, from the first annual report on the registration of Massachusetts, may be adduced:

"The right of a representative to his seat in our General Court, is disputed. He was elected by a majority of *one vote.* One of the persons voting for him was an old man, who had not been assessed for several years; but who claims the right of suffrage, because, he says, he is seventy years old and upward. His age, therefore, is a fact of essential importance, and its decision may determine the political character of the State government. Without a registry, the question cannot be answered without great difficulty. With a registry, it is put at rest at once and beyond all controversy."

ART. III.—*On the Pathological Effects of Alcohol.* By JOHN C. PETERS, M.D.

IN company with my friends, Drs. GOLDSMITH and MOSES, I have examined the bodies of nearly seventy persons who have died from the excessive use of ardent spirits.

External Appearances.—These presented nothing peculiar, except that in some the muscular development, but more frequently the adipose, was very great; in others the bloated face, tumid belly, thin and flabby legs and arms, were quite characteristic.

Head.—Invariably there was present more or less congestion of the scalp, and of the membranes of the brain, with considerable serous effusion under the arachnoid, while the substance of the brain was unusually white and firm, as if it had lain in alcohol for an hour or two, and the ventricles were nearly or quite empty. In not more than eight or ten instances did we find more red spots upon the cut surface of the brain than usual. The peculiar firmness of the brain was noticed several times, even when decomposition of the rest of the body had made considerable advances; typhus fever is the only disease in which we have noticed a like firmness. Occasionally a few drachms of colorless, or reddish turbid serum, were found in the ventricles of the brain.

The Lungs were generally healthy, except that congestion of them was frequently met with. Where large quantities of spirits had been taken shortly before death, the lungs were often found in a state of extensive splenization; they appeared perfectly saturated with dark blood, which soon changed to a florid red on exposure to the air, except that which flowed from the large, severed blood-vessels, for this remained thick, dark, and tar-like. The parenchyma was heavy and semi-solid to the feel, but softened; for the finger could be easily forced through it. We must make particular mention of the infrequency of phthisis in drunkards; never have we met a tubercular abscess in them, even of the smallest size, while a small number of chalky tubercles was frequently noticed; and cicatrices also were often met with, and were marked by presence of puckering of the surface of the lungs, of solid bodies which were readily felt before the lung was cut into, and when this was done, they were found to consist of lumps or stripes of callous fibrous tissue, around which we rarely discovered a few discrete, grey, crude, small, tubercular granulations; in every instance these appearances were strictly confined to the upper third of the superior lobes, and the rest of the lungs was entirely free from either old or recent tubercular disease. The bronchi were almost always found reddened, somewhat dilated, and more or less filled with catarrhal secretions. The readers of the London Lancet will remember that Marshall Hall has lately recommended the constant application to the chest of folds of linen or flannel soaked in alcohol, as a cure for incipient phthisis; we should judge that this might prove serviceable.

The Heart was always flabby, enlarged, dilated, but little or not at all thickened, and its external surface loaded with fat. Fluid, dark, cherry-juice-like blood was often found in both ventricles, in the aorta and pulmonary arteries. Coagula are rarely or never found in the heart or large blood-vessels. In some cases where sudden death has been occasioned by the excessive use of ardent spirits, no other appearances are found in the body except the fluid condition of the blood, the above described congestion of the lungs and membranes of the brain, with serous effusion under the arachnoid.

The Stomach represents various appearances; in some habitual drunkards the mucous membrane is perfectly white, but somewhat thickened, with distinct flat, *mamellonated* elevations of small size. Dr. Middleton Goldsmith was one of the first to call attention to the fact, that when a large quantity of undiluted spirits had been taken shortly before death, the stomach was often found wrinkled,* as if from the action of an astringent substance; the tops of the wrinkles or rugæ presented a punctated and vivid red appearance, while the depressions between were blanched, as if from the action of alcohol, and the whole mucous membrane was coated with a thick layer of blanched and very tenacious mucus. In other instances we found thickening and *mamellonation* of the mucous membrane, with patches of slate-grey chronic inflammation, upon which spots of punctated, star-like, or diffused hemorrhagic inflammation had supervened. In ten or twelve of the worst cases, in which from three pints to two quarts of liquor had been swallowed within thirty-six or forty-eight hours before death, we found extensive hemorrhagic inflammation of the larger portion of the stomach, with effusion of blood in large patches under the mucous membrane. In several instances in which unknown persons were found in the river, with severe cuts or bruises upon their heads or bodies, we have been enabled to testify positively, from the above appearances of the stomach, and those of the liver and omentum presently to be described, that they had been deep in liquor just before they had fallen into the water, and that in all probability no murder had been committed, as the cuts or bruises would lead one to suspect.

The Liver, in moderate drinkers, was found a little larger than natural, somewhat softened, and its external surface spotted with patches of fatty infiltration, which extended but two or three lines into the parenchyma; the color of the rest of the organ was nearly natural, and the edges retained their normal sharpness. In higher degrees it was considerably larger, the edges more obtuse, and the patches of fat larger and more numerous. In old drunkards the liver was very large, weighing at least six to eight pounds, often ten to twelve; the edges were very thick and much rounded; the parenchyma almost white with fat, soft, fragile, and the peritoneal covering could be torn off in very large pieces with ease. Granular liver was found in four or five cases only. *The gall bladder* was always large and filled with bile; gall-stones were found in two cases only, and singularly enough, both on the same day; none were found either before or after.

The *Spleen* presents but few characteristic alterations. It generally retains its normal size, and is softened; occasionally it is rather larger than natural, but as a rule, the small size of the spleen contrasts strongly with the very great enlargement of the liver.

The appearance of the *omentum* is very peculiar; it is loaded with an ashy-grey slushy fat. Our attention was called to this sign in Vienna; it is there regarded as so characteristic, that a man is often judged to have been a drunkard, from a glance at the omentum, when the abdomen is first laid open.

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* This fact was noticed by us several years since, in the New York Med. and Phys. Journal, also in the Boston Med. and Surg. Journal.—C. A. L.

The *kidneys* are generally somewhat enlarged, flabby, their cortical substance infiltrated in numerous small spots, with a whitish matter, either albuminous or fatty; occasionally they are granular. The pelvis and uterus are generally in a state of chronic, slate-grey inflammation.

The *bladder* generally presents nothing peculiar except in the worst cases, in three or four of which we have found it in a state of hemorrhagic inflammation, which rivalled in extent and severity that which has already been described as occurring in the stomach.

The *mesentery* is always loaded with a thick layer of fat.

The *small bowels* in the majority of cases are literally filled with bile, and their mucous membrane thickly coated with a very tenacious mucus. In eight or ten of the worst cases, numerous and extensive patches of hemorrhagic inflammation were found, with copious effusion of blood in and beneath the mucous membrane. This may account for the frequency of discharges of blood from the bowels of drunkards.

The whole body of drunkards, with the exception of the brain, passes over into decomposition with unusual rapidity.

The most important appearances are the fluid and venous condition of the blood and the great superabundance of fat. According to Steinheimer and Roesch, alcohol acts directly upon the blood, and drunkenness is owing to an alcoholic venous plethora, in which the proportion of hydrogen and carbon in the blood is much increased. The same alteration of the blood occurs in poisoning with narcotic drugs, and the delirium and excitement of the nervous system produced by them and alcohol, is supposed to be secondary to this change in the quality of the blood. According to Orfila, if a large quantity of alcohol be taken during, or shortly after a meal, it coagulates the albuminous portions of the contents of the stomach, and this coagulated albumen passes off almost unchanged into the small intestines. The action of the gastric juice upon other portions of the food is prevented, and they undergo acetous fermentation. A large quantity of pure alcohol also reaches the duodenum, mixes with the bile, which loses its alkalescence, and can no longer be precipitated into insoluble flocculi by the addition of the acid chyme, as is normally the case; in the natural state this insoluble precipitate from the bile is not reabsorbed, but is cast out with the fæces, but in drunkards no such precipitate ensues, the bile remains fluid and unchanged by the chyme, and a larger portion of it is reabsorbed; hence the bilious difficulties in drunkards and the frequent occurrence of jaundice in them. Large quantities of acid chyme and imperfectly digested food pass along the small intestines, and even reach the cœcum and colon, where they also undergo acetous fermentation; this is sufficient to account for the dyspeptic difficulties and sour eructations in drunkards. The blood which returns from the intestines into the vena porta system and liver, is more or less mixed with alcohol, imperfect bile and other impure matters; hence the venous plethora of the vena porta and subsequent affections of the liver; as much bile is brought back to the liver, it is, doubtless, re-secreted from it with great rapidity; hence, among other causes, the large quantity of bile which is usually found in the gall bladder, and small intestines.

The chyle which is absorbed by the lacteals must be very imperfect, and is mixed with more or less altered alcohol; of course the blood which is formed from it is equally imperfect. If alcohol be added to blood which has been drawn from a vein, the blood becomes dark, it loses its normal opacity, becomes transparent, and changes to a cherry-juice-like fluid. With the aid of the microscope we see the blood globules gradually losing their red coloring matter, which becomes equally dissolved and diffused through the serum, which assumes the peculiar cherry-red color; this serum coagulates to the consistence of thick milk, but cannot form solid coagulæ, and no watery particles separate from it. These appearances agree with those of the blood of topers, which is thick, but fluid; it coagulates very loosely, contains but little fibrine, but much albumen and fat.

According to Rokitansky, Andral and Engel, the blood in tubercular cachexia is arterial and rich in fibrin; while in the cancerous cachexia and typhous fever, it is more venous, it abounds in albumen, and is deficient in fibrin; hence alcohol would seem to produce a state of the blood opposite to that which occurs in tubercular disease, and is somewhat similar to that which obtains in cancer; therefore, it may prevent the development of the former, and hasten that of the latter.

ART. IV.—*Extracts from the Recorded Proceedings of the New York Medical and Surgical Society.*

Case of Congenital Occlusion of the Vagina. By John Watson, M.D.—The patient, a young German woman, with the external parts of generation well formed, and not destitute of sexual desire, had never menstruated, and on inspection she was found to be actually without any traces of a vagina. Her health was good, and there was no abdominal swelling. An operation for establishing the vaginal passage had been performed by Drs. Hoffman and Maxwell, but owing to the patient's neglecting to follow their instructions, the parts again united. A second operation was performed by Dr. Watson, as follows:—A silver catheter was introduced into the urethra, and held by an assistant. The fore finger of the left hand being inserted into the rectum, the parts were then carefully divided at the natural situation for the vagina, between the catheter and the finger, which served to protect the urethra on one side, and the rectum on the other. After the bistoury had penetrated about an inch and a half, the tissues were found to yield slightly to pressure. The further extension of the passage was effected partly by stretching, and partly by cutting, until, at length, the passage was restored as far as the os tincæ. This was evidently very small, and the whole uterus appeared to be atrophied. There was no accumulation of menstrual fluid. The passage was kept open several months by means, first, of spunge, and subsequently, a full-sized pessary. The patient has been seen within a few weeks. The passage is still pervious, but much contracted. She has neglected the use of the pessary since May last.

Pleuritis terminating in Empyema, in an Infant aged nine months. By John S. Vandervoort, M.D.—This case occurred in the practice of a medical friend who requested Dr. V. to make a post mortem examination. From the previous history, it appeared that five weeks before death, the child was attacked with symptoms of influenza of a mild character, which did not seem to require any special care. Gradually the symptoms became more severe, accompanied with cough. Pneumonia of the right lung was feared, and the patient was freely leeched and blistered. Various expectorants were given. About two days before death some dulness was detected on percussing the right side of the chest, and the existence of pleurisy was then suspected. There was considerable irritability of the stomach during the child's illness. At the autopsy the right cavity of the chest was found to contain one pint of pure pus, the pressure of which on the lung had converted it into a fleshy mass, less than half an inch in thickness Exterior to the lung, and adhering firmly to it, there was a dense layer of coagulable lymph. Pneumonia existed in the lower lobe of the left lung. The stomach showed strong marks of inflammation, and its mucous membrane was much softened. The other organs were all healthy.

Death resulting from the Application of a Blister. By John Watson, M.D.—A sprightly but scrofulous-looking child, about four years old, had been subject to conjunctival inflammation, which had been formerly relieved by a small blister placed on the back of the neck. The ophthalmia again appearing, the child's aunt thinking it unnecessary to send for their physician, resorted to the blister behind the neck, as on the former occasion, and allowed it to remain undisturbed for about eight hours, when it was removed, and the exposed surface dressed with plantain leaves. The blister was rather large, and slipped sideways and downwards so as to inflame the skin over an extensive surface, reaching from the nape of the neck to the back of the right ear, and downwards as low as the clavicle. The integuments became highly inflamed, and there was a disposition to sloughing, especially over the edge of the sterno-cleido-mastoid muscle. The child was seen by Dr. Watson, in company with Dr. Macready, and then had been suffering twelve days, but was able to play about the house, complaining only when the sore was disturbed by dressing. It had been dressed with poultices, and with the ointment of hydriodate of potassa. Finding that the sore was excessively sensitive, and the child refractory and suffering severely from the dressing, an anodyne poultice was recommended, which was afterwards changed for unctuous dressings. At the end of a week from the first visit, she was again seen, and found in a state of nervous prostration, bordering on collapse. Her skin cold, lips blue, respiration short and labored, her intellect clear, her temper irascible and fretful, her pulse about forty. She was also vomiting continually, especially after attempting to swallow, or when moved, or when her head was elevated. She made no complaint of pain in her stomach, or other internal organs. She was constantly crying for drink, which she swallowed in a ravenous manner, without assuaging her thirst. The matter ejected from the stomach was simply a deep greenish bile, diluted with water. Stimulants were applied with some partial benefit, but she continued to sink, and died the following morning. No autopsy was made. She was exhausted, from the irritation of the exposed and ulcerated surface, and died in a state of pure nervous exhaustion. The vomiting came on before the other symptoms of collapse, and continued to the last.

Electro-Magnetism as a Remedial Agent. By Gurdon Buck, M.D.—Respecting this case, Dr. B. gave the following details:—A nervous female, aged 40, had been subject to derangement of her menses since the age of eighteen, and she also suffered from severe neuralgic pains in the spine. About two years ago she had the epidemic influenza, since which she has not been able to speak above a whisper. Various remedies had been resorted to during several years that she has been under Dr. Buck's notice. Recently, electro-magnetism was daily employed without acupuncture. Since its use, her voice has returned, and her menses have appeared without their previous painful symptoms.

Opium, a Hazardous Remedy in Strangulated Hernia.—The following cases show the danger of using opium or its preparations when strangulation of a hernia is suspected. Many similar instances might be recorded, in which, by the use of opiates, the symptoms of strangulation have been masked, and operations deferred until too late to be successful.

Dr. Buck stated that he was called to operate on a lady aged 60, whose hernia (femoral) had been strangulated two days. She had been put under the influence of tobacco and an anodyne injection administered on the first day she was taken ill, which was Sunday. On Monday she was found in a state of profound narcotism. On Tuesday, Dr. Buck was called in. The patient then lay in a stupor, and did not appear to suffer. The hernial tumor was large, and its contents were omentum and intestine. The operation was performed the same day, and death ensued thirty-six hours thereafter. On examination, the strangulated portion of intestine was found of a purplish brown color.

Dr. Watson reported as follows:—A lady, aged 64, a rather small and spare woman, about six weeks before the present attack, was seized with severe and sudden pain in the bowels, which was considered bilious colic. She was treated with very large and repeated doses of opium, which for the time overcame the pain. On Tuesday, May 28th, while busying herself about her household duties, she was again taken as before, and the former treatment resorted to. The amount of opium was very great, some ten or twelve grains per diem for several successive days. The pain was effectually overcome, and the only evidence of narcotism produced, was a pleasant hallucination without sleep, and a tingling or itching sensation over the whole body. She continued under treatment in this way up to the evening of May 31, and, as a small swelling had recently been detected in the right groin, and her bowels had not been opened for nearly three days and a half, a consultation was requested. Dr. W. now saw her for the first time, about 9 or 10 o'clock at night, and recommended the operation. Some hesitancy existing, Dr. Mott also met the other attendants in consultation at midnight. The operation was resolved upon, and was performed by Dr. Watson. The hernia was femoral; no fluid existed in the sac.

The protrusion was small, and the parts united by adventitious adhesions, the result of inflammation, probably existing there since her first attack some six weeks before. On the next day the narcotic condition still existed, bowels still constipated, notwithstanding the use of oil and enemata. On June 2d, the bowels were freely and spontaneously moved for the first time. After this, all evidence of narcotism subsided, and the case began to promise well. The wound was dressed on the sixth day, and it was then dry, and appeared to have united by the first intention, but in a day or two afterwards it opened and gave issue to a very offensive discharge, which excoriated the surrounding parts. The whole of the pubic region and the right groin became inflamed, and the discharge for several days appeared to increase in quantity, and become more offensive. On the 8th June, a large slough was found lying under the integuments in the bottom of the wound, which was removed. Portions of fæces appeared on the dressings. The wound gradually contracted, and she continued under treatment until July 15, when a truss was applied.

Another instance was mentioned by Dr. Watson. The husband of a female aged 60, objected to the performance of the operation on his wife, and in consequence it was deferred from hour to hour. Sixty drops of laudanum were given to allay irritation, and a consultation called. Croton oil was prescribed to relieve the bowels. At the next meeting the patient was so comfortable and free from pain that the operation was deferred until the next morning, when she was found moribund, being twenty-four hours from the occurrence of the strangulation.

Medullary Tumor in a child aged six years. By B. W. McCready, M.D.—This disease was preceded by emaciation, pain and fretfulness. The abdomen became tumid, and gradually increased in size. On examination a large medullary tumor, weighing nine pounds, was found in the abdomen, lying between the ribs and spine of the ileum of the right side, involving the aorta and vena cava.

Hæmatemesis, from the use of liquor. By John Watson, M.D.—A German grocer, of lymphatic temperament, about thirty-six years old, and though not a severe drinker, in the daily habit of tippling with his customers, was suddenly taken ill on the 28th August with alarming and repeated hemorrhage from his stomach, which was vomited up in such quantities as to cause almost instant syncope. When seen by Dr. Watson, he was pale, cold, and almost pulseless; and perhaps nearly two quarts of blood mixed with food, which he had recently swallowed, lying on the floor beside him. Sinapisms were immediately applied to his arms and lower extremities, iced water and lumps of ice were directed to be given. On the following day his bowels were freely moved with castor oil, which brought away a great quantity of blood from the intestines. The patient had no pain, excepting over the stomach when pressed. For a month or two previous he had been dyspeptic, and had become pale and languid, but not actually so ill as to be alarmed about himself. He kept quiet for a few days after this attack with no return of bleeding, but with some febrile reaction, generally in the afternoon.

On the 1st Sept. he had another sudden turn of vomiting blood, almost as severe as the former, and apparently induced by indiscretion in eating, which was contrary to instructions. This was also soon checked; and afterwards a blister was applied over the stomach, and the patient put on an alterative course of medicine, consisting of blue mass, ipecac. and aloes, which was taken so as to produce two or three evacuations daily, without exciting nausea. In the course of a week the mercury began to affect his gums, and these were kept tender for two or three weeks, at the end of which time he was so far relieved as to attend to his business. He improved rapidly, and has entirely relinquished his former habit of drinking.

Art. V.—*An Account of an Operation for the removal' of a Congenital Cataract of the Capsulo-lenticular variety.* By H. H. Turner, M.D., U.S.A., in a letter to Dr. Thomas Mower, M.D., U.S.A.

Early in July, I was requested to visit a negro boy, who was affected with congenital cataract of both eyes, and to operate for the removal of the disease.

I found the boy about six years of age, of good constitution, with all power of vision lost in the right eye, and that of the left so feeble that large objects could only be seen, and these imperfectly, when brought very near to the face.. The cataract in the right eye was of a milky whiteness, so complete and uniform, that no color could be perceived in it when the pupil was artificially dilated, and so large, that it appeared to occupy the whole posterior chamber; that in the left eye was of a bluish grey color, which was deeper in the centre than at the margin of the pupil. They presented the same appearance in both eyes from birth until about six months ago, when the boy had an attack of the measles, during the course of which the eyes became inflamed, and the pupil of the right changed from bluish grey color to a milky whiteness.

Having satisfied myself that the cataract in the right eye was not complicated with amaurosis, or any preternatural cohesion to the iris, or with any other affection of the eye, and that no disease prevailed in any other part of the body, I determined to operate upon it immediately, and to leave the left eye for a subsequent period, as its vision was not entirely wanting, and a favorable change of action might be induced in it by the operation on the right. I directed the patient to take a seidlitz powder every second morning, and to be kept on a light diet for a week; after which, I operated in the following manner. The arms and legs of the boy being tied, he was seated on a straight-back chair, to which he was securely bound; his head was firmly supported against the back of the chair by the hands of an assistant, and the lower eyelid depressed by the fingers of another. Not being equally expert with both hands, I took my position behind the patient, having previously dilated the pupil with a solution of the extract of belladonna; and with a speculum in the left hand, elevated the upper lid, and controlled the motions of the eye, which were quick, frequent, and irregular. Having determined on the needle operation (under the impression, from the size and appearance of the cataract, that it was of a soft or fluid character), I introduced Scarpa's needle through the tunics of the eye, about two lines posterior to the junction of the sclerotic coat with the corner, and about one line below the track of the long ciliary artery on the external convexity of the ball. After penetrating the coats of the eye, I directed the extremity of the needle upwards, and having depressed somewhat the lens, brought it down immediately in front of the capsule, keeping its point presented backwards to avoid injuring the iris. I then lacerated the capsule freely, and finding the lens of a soft consistence, divided it into four or five parts, and with the point of the needle carried three of them (one being one-third the size of the lens) into the anterior chamber. The capsule was opake, and so tough that its rupture was attended by an audible snap, which made me think that the extremity of the needle had broken in the eye, but this unpleasant idea was soon removed by carrying the needle into the anterior chamber, where I saw that it was uninjured. After the needle was withdrawn, a light compress of old linen was put over both eyes and confined by a bandage, the patient placed in a dark room, directed to take a seidlitz powder the next morning, and be kept on low diet.

The day after the operation, July 16th, I found the eye doing well, the conjunctiva somewhat injected, and a slight effusion of blood beneath that part of it where the needle was introduced. The extract of belladonna was again applied, and the pupil kept dilated by it for a week. Scarcely any pain attended the operation, and no pain or appreciable amount of inflammation followed. On the fifth day, I removed the bandage and compress, and covered the eyes with a green shade; and on the 22d day, but a small portion of the largest of the three fragments, which were carried into the anterior chamber, remained, the others having been removed by absorption; the patient was possessed of tolerable vision, and running about the yard without assistance, delighted with the sight which he had obtained. A small portion of opake lens can yet be seen behind and below the pupil, which is rapidly disappearing. No deformity, irregularity, or change in the mobility of the iris, has followed.

The above operation differs from the posterior one usually performed for the removal of congenital cataract from the eyes of children, in this; that I freely lacerated the capsule, divided the lens and carried the greater part of it into the anterior chamber before withdrawing the needle from the eye; instead of simply lacerating the capsule, and leaving the lens in situ, to be removed by the action of the absorbents, or future operations.

It is recommended, by authority, not to attempt too much at one operation, for fear of exciting high inflammation. But when the pupil is freely dilated, I can perceive no objection to dividing the lens and removing it from its connexions; in doing which, if proper care is observed, the vitreous humor, iris and ciliary processes can sustain no more injury than if laceration of the capsule only is attempted. The coats of the eye are as much injured in the one case as the other, and the inflammation following is probably as great in the one instance as the other; and should simple laceration be followed by high inflammation of the eye, and but little absorption of the lens, the cataract may form adhesions to the iris, which will materially interfere with proceedings in a second operation. And when laceration of the capsule only is accomplished, whether by the posterior operation or keratonyxis, a second introduction (and frequently a third) of the needle is generally necessary.

ART. VI.—*Medico-Legal Inquiry; or, a Report of the Evidence taken in the Case of the People* vs. *Riley Drake, on an Indictment for Manslaughter in the Fourth Degree; tried at Binghamton, May*, 1844. By N. S. DAVIS, M.D.

As everything relating to legal medicine is of interest to the profession, I send you all the material facts connected with the above-mentioned case, which, if you deem worthy of record, you will give a place in your excellent Journal of Medicine and Collateral Sciences. The defendant, Riley Drake, was charged with having produced the death of Miss Frost, by the careless and unskilful administration of lobelia.

N. S. D.

Specification:—"The grossly ignorant, careless, and unskilful administration of lobelia to Miss Lucina Frost, by which her death was produced."

EVIDENCE FOR THE PEOPLE.

Dr. A. H. Brownson, sworn, says, "He was called to visit Miss Lucina Frost on the 11th September, 1843. Found her laboring under febrile excitement. Considered her complaint a case of bilious remittent fever. Continued to attend her as physician, until Thursday, the 28th of September, when she was convalescent, and had been for several days. Patient had some appetite. Witness also testifies that lobelia is a violent emetic; which, if taken in large doses and not discharged from the stomach, will act as a fatal poison. Thinks an emetic of any kind would have been very improper for the deceased when he last saw her."

Dr. Brownson's testimony was corroborated in every point by that of Dr. P. R. Brooks, who was called to see the patient two or three times in consultation with Brownson.

Nancy Sutcliff, sworn, says, "She has known the deceased about eight years. Was there about a week before her death, and up to the time of her death. Saw Riley Drake there on Sabbath (Sept. 24th), when the patient asked him if he thought she was getting better, and he said not. He, Drake, had something to say to her every time he was there. On Thursday, she (deceased) said to him, that Brownson told her that her fever had turned, and that she was better. Drake said that Brownson was mistaken, that her fever had not turned, and that she never would get well under Brownson's treatment. Deceased asked Drake if he could help her, and he said he could. Her father would not give his consent to have Drake. Friday night, Sept. 27, Drake came in, and she (deceased) told him if he thought he could help her, she wished he would. He gave her some medicine, to prepare her stomach for an emetic. The next morning he came in and gave her an emetic. He gave her small seeds steeped in water. Witness saw the seeds. She vomited twice. After vomiting, appeared to feel better. Probably a teaspoonful of the seeds was given. Nothing else given. Drake did not come again till afternoon. Patient appeared better till noon, when she became distressed for breath, seemed filled up on her stomach, and continued so until Drake came in the afternoon. He ordered ginger-tea, which was made, and *three tea-cups full* given. He then steeped *lobelia* in a tea-cup, and gave her that, *seed* and *all*. Tea-cup was about half full. She drank about half of it; and then wanted some physic. He gave her some. She then said she thought she ought to take more. She then took the *rest* of the *lobelia*. He then gave her some red stuff, and then some *nerve root* tea. She died in half an hour after the lobelia was first administered."

This evidence was confirmed in every essential particular by that of Olive Fairchild and Charles Gearnsey, with the additional fact, that the deceased was severely *convulsed* after taking the emetic, on Saturday, just previous to her death.

Dr. Stephen D. Hand, sworn: "Witness is a practising physician, residing in Binghamton, Broome co., N. Y. Says he was called to examine the body of Miss Lucina Frost, on Sunday, Sept. 31, 1843. Was informed that she died on the Saturday previous (Sept. 30). External appearances of the body natural. Examined the stomach, and other internal organs. Found a *table-spoonful* of *lobelia seeds* in the *stomach.* Mucous membrane of stomach softened and much inflamed. Intestines also considerably inflamed. The heart and other organs healthy. Witness has no doubt but the lobelia contained in the stomach killed the patient. Thinks there was enough there to destroy the life of any person, unless thrown off. All parts of the lobelia plant contain the same properties. Thinks, from the description given of the patient by Drs. Brownson and Brooks, that an *emetic* of *any kind* would have been very *improper* under the circumstances."

The testimony of Dr. Hand was corroborated by that of Drs. West, Brooks, and Cook, who were also present at the post mortem examination.

Drs. Thomas Jackson and N. S. Davis, both residents of Binghamton, were also sworn in regard to the properties of lobelia, which they stated "to be an active narcotico-acrid poison, when taken in large doses."

This closed the evidence on the part of the prosecution, when the defendant called Charles Gearnsey, Haman Gearnsey, Samuel Martin, Harry Martin, Alvah Parsons, Nathaniel Boughton, Charles Elliot, Sherlock Black, Rhoda Gearnsey, George Doolittle, Uri Doolittle, James Russell; all of whom testified that they were personally acquainted with Riley Drake, and considered him a skilful physician of the *Thompsonian* school."

The defendant then called on the following *Thompsonian* and *Botanic* doctors, to prove the qualities of lobelia:—

Folkert Van Vleck, sworn; "Lives in Hamilton, Mad. co. Is a physician of the Thompsonian order. Twelve years' practice. Have had as many patients as I could attend to. Have used lobelia in almost every case of inflammation and fever, and usually with good success. In cases of remittent fever, should use lobelia as an emetic, and afterwards in broken doses. My patients have always recovered. Lobelia produces an emetic effect on the healthy stomach. It will not produce inflammation under any circumstances. Did not hear the testimony of Dr. Brownson. Heard Dr. Hand's. Thinks that lobelia would not produce the effect described by Hand."

Cross-examined.—Says he has lost only one *fever patient.* Has lost some with consumption. Gives lobelia in consumption. Has been present at a post mortem examination. Thinks that a single dose of lobelia could not be taken so as to produce death; it might be by repeating the dose. Cannot tell whether tobacco is a *poison* or not. Thinks cicuta would produce nausea. Has never studied surgery, anatomy, &c., and do not deem it necessary.

William Rose, sworn: "Is a botanic doctor. Has used lobelia for thirty years, in all cases where emetics were needed. In 1825 had one hundred cases of scarlet fever, in which he used lobelia, and did not lose a patient. Has no knowledge of its possessing poisonous qualities. Understands by *narcotic* poisons that which stops the circulation of blood. Don't know how opium produces death. Thinks arsenic would produce death quicker than cicuta."

Jabez Jeffers, also a botanic physician, gave similar testimony to that of Dr. Rose.

Thomas W. Griffin, sworn, says he is a Thompsonian physician ; has practised eighteen years as such. Says he uses three articles, viz., lobelia, Cayenne paper, and Barbary bark, in all cases, and in all *stages* of disease, and under all *circumstances*, and *always* with *good* effect. Thinks that lobelia is not a poison.

The testimony being closed, the case was ably argued by Lieut.-Governor Dickinson for the defendant, and by the Hon. Joshua A. Spencer in behalf of the people ; when it was submitted to the Jury by Judge Morrell. The Jury, after an absence of a few hours, returned with a verdict of guilty. Judgment was, however, suspended until next term of Court.

Art. VII.—*On the Diet of Infants in Affections of the Bowels.* By James Stewart, M.D., of New York.

The subject of diet has been regarded from the earliest period of medical science as one of the greatest importance to the physical well-being of man at every period of his life. The influence which certain articles of food exercise upon the body, in preserving it in a healthy state, or in predisposing it to the attacks of the various diseases which appear to be a portion of his inheritance, has long been considered, as indeed it ought to be, as of more importance than the air he breathes. While miasms and other atmospheric impurities produce their effects comparatively in so limited a number of instances as to be almost capable of enumeration, our food, comprising the very materials of which our bodies are built, being so varied in the number of the articles of which it is composed, so liable to be improperly used by being taken in an improper manner, or in an excessive quantity, may become a cause of derangements, difficult indeed to enumerate. It is unnecessary to enlarge upon this point ; and indeed it is scarcely within the scope of our subject. The experience of most persons must bear testimony to the truth here stated ; while scientific records, both medical and hygiènic, abound with concurrent testimony, and attest the universal importance of the intimate relation subsisting between the supply of suitable food, and the preservation of the body in its healthy vigor, as is seen in the greatly improved health of the men composing navies and armies, where the observance of the required rules is a subject of compulsion.

If the proper use of appropriate food is of so much consequence in a state of health, much more does it demand the attention of all, and especially of the physician, when the body is contending with the derangements of disease,—when the disorder of the system materially interferes with the proper discharge of the functions of life. The greater or less change in the appetite for food, or its entire absence, which occurs in every disease, at once points out that an important change has occurred in the functions of the organs destined to supply the daily waste of the body. The natural instinct of man leads him to make some alteration in his diet when sick, and the experience of all ages proves the benefits of such a course when judiciously adopted. The establishment of a well-regulated diet is the chief resort of designing impostors in the management of chronic diseases, and which it is so difficult for the physician to enforce. He perhaps cannot say that certain enumerated articles of diet are incompatible with the medicine he is giving, for that may not be the truth; he can only direct his patient to follow a certain course of diet in connection with the medicine as necessary for his cure, and which the patient will follow just so long as he is inclined to do, and no longer; but if he can be made to believe that while he is taking certain kinds of medicine, a list of articles with which he is furnished, is little less than poison, it is easily conceived with what care he will unwittingly carry out the views of his medical attendant. Few persons are aware of the great variety of food that is taken in the course of a day; let any one enumerate all that is usually consumed, and he will be at once convinced that a very important change must be effected in some chronic diseases by a reduction in the number of articles. In diseases of an acute character, there is but little danger of a transgression of the rules imposed, for the appetite for food, especially for that of a solid kind, is altogether absent.

Of much more importance is the subject of diet under those circumstances where the period of life and disease unite to impart a peculiarity requiring a closer attention to the ingesta.

The period of infancy presents to our attention circumstances in connection with diet, which have no parallel at any other time of life. In childhood and infancy the desire for food is frequent; capillary action, secretion, deposition and interstitial increase proceed with great vigor,—all, the consequence of this period being the period of growth; wherein it differs very essentially from the adult state, as, in the latter, the action of vitality is comprised in the preserving and recuperative processes; to which is added in the former, that of the development of the body. Growth is much greater during the first year, and the constant desire for food during that period is a circumstance of common observation. In young infants the whole time is occupied with receiving nourishment and repose.

With this peculiarity of early infancy, there is also another more worthy of note, as it has a direct practical bearing on the subject before us—and that is, in the fact that the food of all animals in their earliest period of existence is derived from animal substances, even in those which afterwards subsist upon vegetable grains; the chick, even after being hatched, uses a part of the egg for its nourishment. Man after infancy obtains his nourishment from both animal and vegetable substances, and the great variety of articles of food makes a curious exhibition of his omnivorous nature, the effect of custom, climate, religion, etc. The carnivorous propensities of the people at the extreme North with their feasts of whale blubber, and the Indian Brahmin with his meal of rice; the cannibal of the South Pacific Ocean, and the luxurious tables prepared by the most scientific French cuisinier for the civilized convivialist—the oak bark bread of one nation, the flesh-feast furnished by dogs, rats, mice of another—or the snakes, lizards, caterpillars, locusts, worms and other reptiles of the African negro, and even the meal of clay used by the Otomacs as mentioned by Humboldt, certainly present a wide variety in the articles used for sustenance, without considering the minutiæ of our daily food, to prove that man is omnivorous. But under all the circumstances of climate, whether in the frozen region of the North, or under the burning sun of the tropics,—of superstitious customs, or savage barbarity,—whatever be the circumstances influencing the character and quality of man's diet, there is for him in a state of infancy but one kind of food—and that of an animal nature. Milk is his sole article of sustenance until the time when a change in his system takes place, when a new arrangement of his organization requires him to seek his food among more varied substances, and to which his instinct invariably directs him. Comparative anatomy affords its evidence to the necessity of adhering to this one kind of food. The form of the infant's stomach is much more conical than that of the adult, and resembles in this respect the stomach of carnivorous animals; and the facility with which an infant vomits or rather regurgitates its food is analogous to the ease with which the dog or cat vomits whenever anything is swallowed, even in an inconvenient manner. In the horse, rabbit, or hare,—animals altogether gramenivorous, the stomach differs very essentially in its form, resembling much more the stomach of an adult,—vomiting can scarcely be excited even with the strongest emetics. The nature of the infant's food may very rationally be inferred from this analogy.

If, therefore, nature has provided but one kind of food for the infant, a sudden change to substances essentially different in their nature must be injurious, to a greater or less extent; this is a natural and direct inference from the facts already stated. In adults, where every species of food is used, an entire change, and a restriction to one course of diet, are always productive of important effects upon the general system; and where a scarcity of food has compelled large numbers of men to alter their food and suddenly to adopt entirely different substances from what they were accustomed to eat,—as was the case in some parts of France, in the year 1817, when a failure of the crops obliged the inhabitants to submit to great transition, and to feed upon whatever vegetables could be found—extensive disease and serious permanent effects are the results.

The influence of an entire alteration of food, from its powerful effects upon the system, causes it to be regarded as a measure of great value in the treatment of many diseases, and the change to vegetable food is not unfrequently an important remedial measure. In the adult such a change is but the restriction of him to a class of substances that is natural to him, and which he can easily assimilate; and therefore does no violence to his physical nature. In the infant, on the contrary, the adoption of a vegetable diet is actually contrary to the arrangement of his digestive organs, and to the provision which is naturally made for his daily sustenance; and in the diseases of the stomach and bowels, must, from the extra demand made upon them to assimilate substances foreign to their nature, add to the existing derangement. Acidity, flatulency, gripings, diarrhœa, and other symptoms of indigestion, are of very common occurrence in young infants; and indigestion is the most ordinary affection at that early period, showing how easily their digestion can be impaired. A very obstinate disease will sometimes arise in infants about the time of weaning, and particularly if the change from the bland food furnished by the mother be sudden; hence the care usually taken to accustom the infant to a different species of food, by commencing feeding it some time before this period, and thus gradually accustoming it to the necessary alteration of diet. If this precaution is necessary to prevent injury where nature indicates that a different kind of food is required, how much more care is needed when greater injury is likely to arise on a sudden change, at a period when there is no such natural indication, and which it is so common a practice to disregard upon the invasion of any affections of the bowels. Immediately upon the appearance of these, arrow-root, tapioca or sago formed into jelly, rice or barley water, is given, from the supposed bland and soothing qualities of these various articles, which it is supposed render them peculiarly applicable to the inflamed mucous membrane of the parts affected. Such is undoubtedly the case in the majority of instances in childhood and at adult age, but in infancy I very much question whether this course is followed by any other than an injurious effect. I have watched carefully the influence of these substances for some years past, and am satisfied that the additional labor the digestive organs have to perform in their attempts to assimilate an unnatural food, greatly aggravates the disorder of the bowels; and if they should fail in digesting the entire quantity, the remainder must be a foreign substance to the bowels, and thereby become an additional source of irritation. It is well known that vegetable food in general requires for its digestion more time and more energetic action of the digestive organs than animal food; flatulency and acidity are more frequent upon its use. Under ordinary circumstances feculent nourishment passes much more quickly through the intestines than gelatinous, albuminous or fibrinous food. It very often swells and undergoes some degree of decomposition, giving rise to the extrication of gas either in the intestines or stomach, and even when perfectly digested hunger returns very quickly, whenever the patient is kept exclusively upon it. Some kinds of food are much more difficult to digest than others, and although there are a variety of circumstances in the individual which influence the alteration of sustenance taken into the stomach, yet the digestibility of food is very often effected by circumstances relating to the food itself. Thus, fixed oils and fats are slow of digestion, as is known to all dyspeptics; so also vegetable substances exhibit this indigestibility in a greater or less degree, when in a crude or raw state, or in a farinaceous or any other artificial condition. If these effects are produced in the adult, for the reasons already mentioned, it must be much more the case in the infant, and many an instance of the obstinate perseverance of disease of these parts may be referred to the injudicious system of feeding during its prevalence.

It is a rare event to have the secrets of the digestive process revealed, and subjected to the test of actual experiment during life or on a post mortem examination. The former has been exhibited to us in the case of an adult by Dr. Beaumont; and the well-known facts there elucidated have been considered of the most important character. Of no less value are the facts exhibited by post mortem investigations of children, made at Paris a few years since, by M. Natalis Guillot, for the purpose of ascertaining the condition of the contents of the bowels of such as died under the use of the ordinary diet of the hospitals. It is the custom at these, and similar institutions, whenever an infant is sick, to withdraw it from the breast, and to substitute for the milk some farinaceous substance made fluid by boiling: arrow-root, gummed rice water, or a thickened preparation of rice, known by the name of "Crême de riz," and other preparations of a similar nature, forming the diet of the sick infant. In the reported cases of the foundling hospital, and those for the reception of sick children, prescriptions of this nature form a very important part of the treatment, as will be seen by referring to the different treatises of French authors on diseases of children. The mortality in the French hospitals is very great, and opportunities are thus continually afforded for examination, in such numbers as to establish to a certainty almost any fact which requires the proof of anatomical demonstration. The attention of M. Guillot being directed to the changes which the food given to children underwent, and to the excessive mortality among them, he instituted a series of investigations in a number of cases of death, with special reference to the state of the contents of the bowels. He was struck with the uniform similarity, a jelly-like substance being present in the bowels, and in some instances lining both the small and great intestines. This was subjected to the test of the tincture of iodine, which produced an intensely blue color, thus proving it to be starch.

Here we have a direct proof of the deficiency of the digesting power; the articles given for food had passed through the length of the intestines, and had undergone very little change, and could only act as foreign and irritating substances. The almost entire suspension of the digestive process might indeed have occurred upon the use of any description of food; but when it is considered that a sudden change is usually attended with injury even in the adult; that vegetable substances are, under ordinary circumstances, more difficult to digest than animal; that the natural food of the infant is entirely dissimilar in its nature to what was at once substituted in the instances above mentioned; we might very reasonably expect to find a suspension of the digestive powers, a very serious aggravation of disease, and the results already stated.

From all the facts here given it appears to be the most rational course to pursue to preserve as much simplicity in the diet as the nature of the case and attending circumstances will admit. If in health, when the digestion is unimpaired, as we have seen, food of an animal nature is the proper kind for the infant—in disease there can scarcely be any alteration to food of an entirely different kind without incurring some risk. It is not my intention to assert that no alteration whatever is to be adopted, and because but one kind of food is provided for the infant, that it would be hazardous to depart from it under any circumstances; such a course would be to discard all sound theory, to abandon all attempts at controlling disease, and if fully carried out would reach even to the administration of medicine itself. While we avail ourselves of the plain suggestions of science and the accumulated experience of ages, let us so adapt them to the peculiar condition of a class of individuals as not to do a positive injury by their injudicious and indiscriminate application. The aged, the robust, the toil-worn laborer, the inhabitant of the city or of the country, the delicate female and the tender infant, all demand some modification in the application of the same universally admitted principles of medicine. In the case of infants we can, without removing them entirely from the breast, avail ourselves of the mild and unirritative effects of substances of the same nature as that upon which the infant feeds. One principal reason given for the adoption of vegetable mucilage, such as infusion of flaxseed, arrow-root, etc., is that it is a soft and soothing application to the tender and inflamed mucous membrane. Now if the same object can be attained by any substance that possesses the same bland qualities, and is also of the same nature as the infant's food, there will be no necessity for resorting to substances, possessing such highly undigestible qualities as those of a vegetable nature. It is not that we may alter the diet from the compound aliment, milk; but to select from some simple alimentary substances, which it is deemed advisable to employ as medicinal agents, that which, from its essential composition, will be found more nearly allied to the nourishment which nature so abundantly supplies, and thus do no violence to the physical constitution.

Such an article is found in certain animal tissues which yield gelatine; a substance which, it is well known, is soluble in water, and forms with it a jelly. There are different species of gelatine obtained from different parts of the animal, differing somewhat from each other, but agreeing in their general character. The gelatinous solution which constitutes a considerable portion of soups, hashes, and stews, is by no means easy of digestion, having been altered in its character by a high degree of heat, and being combined with other articles which make it very difficult of assimilation. But this is not the case with the purest gelatinous food, such as calf's-foot jelly or jelly made from isinglass. These articles rarely disagree with the stomach of the most fastidious dyspeptic, if they are good and fresh prepared; and where there is any inflammation of the mucous membrane of the stomach, when arrow-root and other vegetable jellies produce pain and flatulency, I have found this animal jelly to remain and be perfectly digested. The experiments of Beaumont show that calf's-foot jelly is easily digested, and disposed of in a very short time, and his opinion is, that "gelatine, if not in too concrete a state, is a very digestible article of diet."

There have been some very exaggerated views taken of the nutritive powers of gelatine, and attempts have been made to furnish food exclusively from gelatine prepared from bones, and the utter failure to accomplish the object desired may be regarded as opposed to Beaumont's statements; but the same objection will also lie against the use of fibrine and albumen when used alone, for, according to the report made to the Academy of Sciences by Magendie, "gelatine, albumen, and fibrine, taken repeatedly, nourish animals for a very limited period only, and in an incomplete manner." The object in giving gelatinous food to infants is not to supply an amount of nourishing matter, but to present to the surface of the stomach something which is in accordance with the demands of nature, and which, instead of exciting that organ to expel it as an unsuitable substance, will promote a healthy action in it, by being speedily digested.

In the adult, Liebig remarks, "the intensity of the vital force, its power to produce metamorphoses must be diminished as well in the stomach as in all other parts of the body. In this condition the uniform experience of practical physicians shows that gelatinous matters in a dissolved state exercise a most decided influence on the state of the health." Now, in the sick infant, the powers of the stomach to produce a change in the food must be much more diminished, inasmuch as the stomach, at that period, participates more quickly than any other part of the body in the derangements of the vital force; hence the difficulty of digesting vegetable substances.

Nitrogen is a very important constituent in the food of all young animals; it is, indeed, essential to the growth of the body, composing, as it does, a necessary part of the organized, living portion of the system. Nitrogen is supplied in great abundance by nature, at the earliest period of life; it is an ingredient in that part of the egg which the young chick makes its food, and of the caseine of the milk, which, we have seen, forms the aliment of the infant under every condition of life. The articles so frequently resorted to of a sudden, in disease, such as arrowroot and similar amylaceous substances, contain no nitrogen whatever; and it must be evident, without entering into any discussion of the full effects of nitrogenized and non-nitrogenized food, that so great a departure from the plain provision of nature cannot be free from harm; the stomach being, from the demands of the system, only in a condition to receive food essentially different in its composition. The proportion of nitrogen in the caseine of milk, is 15.724 per cent.; in the albumen of the egg, 15.920; and in isinglass, 18.790 per cent. We see, therefore, that the existence of an important ingredient renders the last-mentioned substance peculiarly suitable to the requirements of the body, and on that account we would suppose that it is more easily digested.

The most convenient method of obtaining animal jelly is by using isinglass, which contains from 75 to 90 per cent. of gelatine, and its use will be the best method of fulfilling one of the most prominent indications in the treatment of disordered bowels in infants.

For some years past, it has been my practice to recommend a thin mucilage or jelly made from isinglass in the treatment of the affections referred to, when soothing and unirritating food is indicated, in preference to the use of arrow-root, and with so much uniform advantage, that I have been fully satisfied of its peculiar adaptation to the condition of infants. To give instances, would be to detail almost every case I have been called to attend. It rarely happens that acidity and other evidences of imperfect digestion, arise to any great extent when this is used; and from the appearances of the alvine discharges, it would seem that it was completely digested. Since the adoption of this species of diet, I have not had an opportunity of applying any test to detect the presence of undigested starch in the evacuations from imperfectly digested food—for, such are the decided benefits which have resulted from the use of animal jelly, in cases of inflamed mucous membrane of the stomach and bowels, that nothing could induce me to substitute anything for it, merely to prove the fact:—it would, however, be a remarkable, but not an unexpected corroboration of the views here stated, if the jelly-like appearance of the alvine discharges presented the same results on applying the chemical test of starch, as appeared in the anatomical investigations at the Parisian hospitals above mentioned.

It has been long the practice to administer to young infants when laboring under that distressing scourge, cholera infantum—when prostrated by debility and attenuated by protracted suffering,—various stimulating articles of an animal nature, such as the juice of clams and oysters, chicken water, or a piece of broiled ham, from repeatedly witnessing their beneficial effects. It is surprising with what avidity the little sufferer will seize and relish a piece of fat pork, when every other species of food is rejected. This instinct, experience teaches us may be gratified not only with safety but with actual benefit to the child; and some of our distinguished fathers in the profession have urged the use of such substances as a very efficacious remedy; and any one who has been a careful observer of the disease, in its most aggravated form, and has yielded to this instinct of the child, must bear testimony to the correctness of the practice.

I know how common it is to refer to experience in support of a favorite course of practice, and to rely upon this as an answer to all objections; and the want of confidence, arising from the frequent failures of others who resort to a similar course, which too often occurs, leads to some distrust in such assertions. On all subjects connected with physical science, there are two species of experience on which we rely as guides in our attempts to control or direct the operations of physical laws: the one may be denominated an imperfect or partial experience; it is that which comes from repeatedly witnessing merely the results of the operation of certain unknown causes, or if these are known, the knowledge is so imperfect and obscure, that it is of little avail for practical purposes; the other, from the results being more or less clearly traced to their proper causes, may be aptly termed perfect, or rather enlightened experience. The former imparts but superficial knowledge, and is an unsafe guide, being liable to produce great errors when generally applied; the latter is capable of universal application from the ability which is afforded for discrimination, and thus enabling us to make exceptions which it would otherwise not be in our power to do. The experience in reference to the adoption of the course of diet here recommended, is of the latter kind; in which the results are precisely what we would be led to expect, and the physiological observations on the nature of diet here recommended find their corroboration in the effects they produce. The union of physiological principles and clinical observation is the true ground upon which to erect a suitable structure of experience in medicine. It is this species of knowledge, the result of a proper combination of well established principles with the investigation of the phenomena of disease, and their enlightened adaptation to the various circumstances which should modify their application, that constitutes the experience that can be made useful in practice. Any other species of experience, having no foundation in solid principles, can only lead to error when adopted as a guide by the practical physician.

PART SECOND.

Critical Analysis.

Art. VIII.—*Traité des Maladies de Plomb ou Saturnines.* Par L. Tanquerel Des Planches, Docteur de la Faculté de Medicine de Paris. Paris: 1839. Tomes II. 8vo., pp. 550, 552.

A Treatise on Diseases produced by Lead. By L. Tanquerel Des Planches, Doctor of the Faculty of Medicine of Paris. Paris: 1839.

(Continued from page 233.)

The next variety of lead disease is paralysis, which is the loss, partial or total, of the power of voluntary motion, and of sensibility, or of one of them; the loss of the power of voluntary motion being occasioned by loss of contractibility in the muscular fibres. This may or may not be accompanied by loss of sensibility. The sensibility of the parts affected with paralysis may be lost, but is more frequently augmented. When the sensibility is retained, Des Planches denominates the affection, for the sake of distinction, paralysis of motion, or simply, lead or saturnine paralysis. When the sensibility is lost, he denominates it saturnine *anesthesie*. This distinction it is important to keep in view, as these two varieties of lead paralysis may exist wholy independent of each other.

Lead paralysis, then, is characterized by loss of voluntary motion, owing to the want of contractility in the muscular fibres of the organs attached. Most frequently the muscles which are thus deprived of motion are the extensors, not flexors; the pain, as we have said, when it exists, being more generally in the flexors, and in the inside of the joints.

Meander is the first author who speaks of the paralytic effects of preparations of lead. After him, Dioscorides, Galen, Paul of Ægina, Rhases, and Haly-Abbas, have mentioned paralysis in describing the different accidents occasioned by the introduction of lead into the stomach. Paul mentions the fact that it is sometimes accompanied with loss of sensibility, and sometimes not.

From the twelfth century, in which Avicenna lived, to Ferrel, in the sixteenth, we find few notices of this form of lead disease. Ferrel reports the case of a painter who was attacked with colic and with trembling, followed by paralysis. Charles Lepois affirms that a portion of those attacked with colic, which he has described with so much precision, were affected with paralysis in the arms, and other forms of lead malady. Engalenus also cites examples of colic followed by paralysis. Cetois, in the seventeenth century, speaks of the colic of Poiton as followed, when not cured, by paralysis, preceded, for the most part, by epileptic convulsions.

Stockhusen was the first who attempted to point out the particular muscles of the arms most frequently affected, and speaks of the extensors as more frequently losing the power of motion than the flexors. Other writers followed, to the end of the century, but added little or nothing to the knowledge already possessed on the subject. In the eighteenth century Ramazzini, in a work on the diseases to which artisans are subject, speaks of lead colic, when neglected, or not properly treated, as resulting in paralysis of the upper limbs. This, he says, is seldom complete. More frequently the power of motion is only enfeebled. If it is lost, sensation remains. It may be partial in a particular member; thus one hand, or one finger, may be attacked. It is ordinarily preceded by abdominal pains, but sometimes it is primitive.

Something, too, may be collected from Boerhaave, Huxham, and above all, from Dehaen, who, better than all other writers, ancient or modern, has described the paralytic effects of lead, and especially the particular muscles most frequently affected. Bonté has some valuable observations also on the subject. The paralyzed arms, he says, hang alongside the body, the wrists become pendant, the hands swell, and the fingers remain bent. He states several other particulars. More cases are reported by others, some of which Des Planches quotes. He concludes his historical analysis, however, with the reflection that paralysis caused by lead, has been very little studied. Certainly, says he, authors, ancient and modern, have not given to this species of paralysis an attention proportionate to its importance, but have treated it in a manner by far too superficial. We look in vain for anything complete on the subject. We are obliged to turn over a great number of works to collect a few notices of it, more or less incomplete. They are scattered here and there in books, especially those which treat of lead colic. This chasm in the history of saturnine maladies has been perceived and regretted, but nothing has been hitherto done to fill it.

Des Planches enters on this part of his subject with great zeal. The circumstances under which metallic paralysis manifests itself, he says, are very similar to those under which colic and arthralgy appear. It is lead only, or its compounds, which, introduced into the system in extremely minute particles, is capable of producing the affection here described. We are told every day, says he, that mercury produces paralysis. This is an error. Mercury produces only trembling, called the mercurial trembling, never paralysis. In fifty cases of mercurial tremblings, witnessed in the Hospital of Charity, not one of paralysis was observed. Nor do the other metals give birth to it, but lead only. Des Planches assures us that he had visited many apartments in which persons labored in mercury, copper, tin, arsenic, &c., without any mixture of lead, and on inquiry he found that the workmen were never attacked with paralysis, occasioned by these substances; and he has never found, he adds, in authors, a single fact, the result of rigorous observation, which contradicts what he here affirms. Lead only, of all the metals, possesses this unenviable distinction.

It has been supposed that preparations of lead might penetrate through the skin, so as to produce paralysis as well as other forms of saturnine malady. The result of Des Planches's observations and experiments is, that this cannot be, if the epidermis be preserved entire. If this be removed, or broken, paralysis as well as colic, results from topical applications of lead.

The common form, however, in which lead is introduced into the system, in cases in which it produces paralysis, is through the stomach and respiratory organs. The inhabitants of Amsterdam, while using water preserved in leaden cisterns, often found themselves affected with paralysis, as well as colic. It has been produced, too, in other cases, by the use of water which has been in contact with lead; by the use of wines and cider adulterated with litharge; by butter into which white lead had been introduced to increase its weight; and by the acetate of lead given in medicine.*

In the following table are given the occupations of 101 individuals affected with lead paralysis:

Manufacturers of white lead, .	31	Laborers in type foundries, .	4
" " minium, .	6	Printers, ...	3
Painters of buildings, . .	22	Lapidaries, ...	3
" " carriages, . .	4	Cutters of crystals, . . .	1
Ornamental painters, . .	5	Manufacturers of acetate of lead,	2
Grinders of colors, . . .	6	" of sulphate of lead,	1
Manufacturers of German cards,	1	" of chromate of lead,	1
Potters, ...	5		
Refiners, ...	3	Total,	101
Plumbers, ...	3		

Another table is given indicating the length of time 102 individuals were exposed, before the development of paralysis:

Duration of Labor.	*Number Attacked.*	*Duration of Labor.*	*Number Attacked.*
Eight days, ...	3	Eleven years, ...	4
Fifteen days, ...	2	Twelve years, ...	2
Twenty-five days, . . .	1	Thirteen years, ...	2
One month, ...	3	Fifteen years, ...	4
Forty-five days, . . .	3	Sixteen years, ...	1
Two months, ...	2	Seventeen years, ...	1
One year, ...	8	Eighteen years, ...	4
Eighteen months, . . .	10	Twenty years, ...	6
Two years, ...	4	Twenty-two years, ...	3
Three years, ...	8	Twenty-five years, ...	4
Four years, ...	6	Fifty-two years, ...	1
Six years, ...	6		
Seven years, ...	4	Total, . . .	102
Ten years, ...	10		

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* Des Planches has brought together several cases and referred to authorities for many more, in which colic and sometimes paralysis, have been produced by the internal administrations of preparations of lead. He gives one remarkable case. A single pill, containing one grain only of acetate of lead, taken by an individual, a student in medicine, produced colic; a second pill taken next day, was attended with effects more serious; and a repetition of the pill the third day, produced consequences so alarming that the apothecary, who had prepared the pills, was accused of negligence. The pills being analysed, however, it was found that such was not the case, for a single grain only of acetate of lead was detected in each. This, however, is a very extraordinary instance. Much larger quantities, as all know, are frequently given without being followed by similar effects. In former times preparations of lead, Des Planches says, were given more frequently than now. He is convinced, however, that at the present day, injurious effects follow the administration of them oftener than is generally supposed, from the circumstance that attention is not particularly directed to the subject. Symptoms of derangement in the system, occasioned by these preparations, are not looked for, and, if witnessed, may be attributed to the disease which the medicine is intended to combat.

Paralysis sometimes precedes colic. Of the above 102, fourteen were of this number. Sometimes colic disappears, and paralysis supervenes. Colic neglected, or improperly treated, is peculiarly liable to terminate in paralysis. But violent colic, as before observed, is not oftener followed by paralysis than moderate or light. Many persons attacked with violent colic, escape paralysis ; while others attacked with light or moderate, are uniformly, at the same time, affected with paralysis.

Lead paralysis, therefore, the author infers, is a malady distinct from colic, and is a direct effect on the introduction of lead into the system. The predisposing causes of this paralysis are, in a great measure, unknown. Are they peculiarity of constitution ? One would imagine that persons naturally feeble, and of a nervous temperament, would be more frequently attacked than others. But facts prove that they are not. Persons of a sanguine temperament are attacked, and so are the lymphatic and nervous, and those of a delicate and feeble constitution ; there seems to be little or no difference in frequency. Some are not once attacked through the whole of life, while others, apparently of the same temperament and constitution, are attacked many times. Of the 102 cases mentioned above, 40 were of a vigorous constitution, 35 of a feeble, and 27 of a medium. It is more difficult to pronounce on temperaments than on strength or feebleness of constitution.

Has the age of an individual anything to do with the development of lead paralysis ? The ages of the 102 were as follows :

Below 20 years, . . .	2	Between 40 and 50, . . .	28
Between 20 and 30, . . .	24	" 50 and 60, . . .	8
" 30 and 40, . . .	36	" 60 and 70, . . .	4

Has the season or state of the atmosphere any influence in the development of paralysis ? Of the 102 cases under notice, 36 occurred in summer, 28 in spring, 26 in autumn, and 12 in winter. But as before remarked, some allowance must be made for the fact that fewer individuals are employed in occupations in which lead is used, in winter than in summer. After all, we are forced to conclude that there must be, in some individuals, a susceptibility to the influence of lead rather than in others, though the physiological causes which determine it, are hidden in impenetrable obscurity.

When paralysis is not preceded by other forms of lead maladies, there are certain symptoms which usually give notice of its approach, as a sensation of lassitude, weight, and perhaps coldness, a kind of numbness accompanied with debility, an unusual stupor, and inaptitude in motion in the parts threatened with attack, attended frequently with a trembling more or less marked. Sometimes the instruments employed in labor drop from the hands from want of power to retain them. These and similar symptoms often disappear when the individual becomes warmed with work, but return during the night, and are quite perceptible in the morning. Occasionally they cease without paralysis, but are more frequently its precursor.

In the greater number of cases, however, the paralysis is preceded by other forms of saturnine disease. In a few instances, it occurs without any premonitory symptoms whatever.

From the precursors of the disease, we pass to the disease itself—lead paralysis. It has been thought that motion in the paralysed muscles is only partially, not totally destroyed, because it seems to execute some obscure and uncertain motions. This mistake is easily explained, for as paralysis of lead usually occupies only one or more muscles, or set of muscles, the other muscles of the limb, which are not paralyzed, must necessarily impress upon it certain motions. The limbs of which particular muscles are paralyzed, will execute these motions in consequence of the contractility of the sound muscles, but the motions will be incomplete, because, for exerting them fully, the action of the paralyzed muscle is necessary. There is, therefore, a diminution of the general power of the limb, and a complete loss of motion in certain muscles—two circumstances which must be carefully distinguished.

The only means of ascertaining precisely how far the power of motion is impaired is an exact analysis of the movements which are lost and those which are preserved in the limb affected with paralysis. In this way, it is readily determined which muscles have lost and which preserve their contractility. From want of attention to this point, much confusion and many mistakes appear in the descriptions and statements of writers who have touched on this subject.

All the muscles of the limb may be paralyzed, but this is very rarely the case. The paralysis is far more frequently only partial. Occasionally, in protracted cases of saturnine malady, when the patient is reduced to the last stage of debility, and all motion is lost, the immobility may arise from the general prostration of the subject, and not from direct action of the lead. Cases of this kind, however, may in general be readily distinguished from others.

In the 102 cases already repeatedly mentioned, loss of motion was general in the upper extremities in five instances, and in the lower, in one. In all the other cases it was partial, limited to one muscle, or system of muscles.

Except in cases of general paralysis, it is always the posterior part of the upper limbs, and the anterior part of the lower, which are paralyzed. This preference of lead for the extensor muscles, it is impossible, in the present state of science, to explain.

Sometimes the paralysis exists in the same degree in the two opposite limbs and in the same muscles ; sometimes in different degrees and in different muscles, and sometimes it seizes one limb, while that of the opposite side remains sound.

The sensibility of the muscles paralyzed usually remains, and is often augmented. Out of the 102 cases, it was lost in only five. In six of the 102 cases, blindness and deafness occurred. The pulse is usually feeble, soft and slow ; irregular, if the paralysis has continued a long time. In this case, the paralyzed limbs become nearly emaciated, and exhibit a peculiarly unhealthy appearance. In severe and long protracted cases, the whole appearance of the victim is wretched in the extreme. When he can drag himself from place to place, he appears more like a dead man walking than like a living being.

Of the varieties of lead paralysis the author treats at considerable length, entering into detail and stating the particular motions which the sufferer can, and those which he cannot, perform, as one or another muscle is affected. But the limits to which we must confine ourselves will not justify us in minutely following him, though, to those who are desirous of making themselves thoroughly acquainted with the subject, this part of the work will be found exceedingly interesting.

This is the most unfrequent of all forms of disease occasioned by lead, but the most alarming. To this subject the author devotes two hundred and thirty pages. We can give only a few of the results of his observations.

Preparations of lead introduced into the system may directly affect the brain, and the result may be delirium, coma, convulsions, accompanied or not with the loss of one or more of the external senses. It is marked, therefore, by either the loss or exaltation of the sensibility, general or special. Similar symptoms may attend diseases of the brain, which originate in other causes, but when occasioned by lead they have a peculiar physiognomy which distinguishes them from all others.

The effect of preparations of lead in producing delirium was known to the ancients. Dioscorides mentions it. Aristæus speaks of epilepsy as resulting from the same cause; and Paul of Ægina says that it is sometimes produced by the internal use of preparations of lead. Other writers, ancient and modern, recognize tremors, convulsions, vertigo, general stupor, epilepsy, apoplexy, delirium, coma, as among the effects of lead. The symptoms in animals are the same as in man. Dogs, arrived at the last period of the malady, remain extended in a state of insensibility, or bite and tear every living animal which approaches them, and even the earth on which they lie, when no longer able to stand.

Des Planches had opportunities of observing seventy-two cases of encephalopathy. Of these, twenty-five were manufacturers of white lead; five, of minium; twenty were painters of buildings; three grinders of colors; three manufacturers of cards and painted paper; two potters; two refiners; three plumbers; one worker in tin; two laborers in type-foundries; seven lapidaries; two manufacturers of shot; and one a printer. Of these, ten were attacked after laboring between a period of eight and of thirty days; thirty-four labored between one and nine months before being attacked; and twenty-one labored for different periods from one to fifty-two years. Four of them were under twenty years of age; twenty, between twenty and thirty; thirty, between thirty and forty; twelve, between forty and fifty; five, between fifty and sixty; and one, between sixty and seventy.

The attack on the brain is not always preceded by colic, arthralgy, or paralysis, but more frequently it is preceded or accompanied by one or more, and sometimes all of them. No cause can be discovered in the age, constitution, habits, circumstances of exposure, or any other circumstances connected with the individual, why the disease should take one or another form. One would suppose that persons of a delicate constitution and nervous and irritable temperament, would be more subject than others to a cerebral attack from the effects of lead. But facts do not confirm this supposition. The seasons appear to have no manifest influence over the development of this form of saturnine malady. The attack is sometimes sudden, and arrests the laborer in the midst of his occupations, or it may be announced by various troubles in the head.

The variableness of the symptoms is one of the marked characteristics of cerebral affection occasioned by lead. Sometimes one form of the disease continues throughout: at other times, different forms succeed each other, and group themselves in various ways, exhibiting, seemingly, all possible transitions and combinations. Delirium may be greater or less ; partial or general ; continued or remittent, or even intermittent ; tranquil or furious. The expression of the countenance is most diverse and capricious, of which the patient appears totally unconscious. Aberrations of mind are no less capricious and varied. In truth, the access and progress of the disease, and everything about it, are marked by an inconceivable irregularity.

Laborers in lead are sometimes attacked with coma suddenly, when apparently in perfect health. But convulsions constitute the most frequent form of cerebral affection occasioned by lead. These are of various characters, partial, or general ; more frequently they appear in the form of epilepsy ; often, epilepsy followed by coma or delirium. Delirium, coma and convulsions frequently in a manner blend, and produce various combinations. Catalepsy, too, occasionally occurs.

Of Des Planches' seventy-two cases, sixteen died and fifty-six were cured. Of cases reported by others, sixty-one died out of eighty-nine. It has been generally supposed, that death is the rule, and recovery the exception. Des Planches, it appears from the above stated result, has met with better success than some others. Probably, however, the cases reported by others were in general only the worst cases. Des Planches' list of seventy-two includes all which fell under his notice, whether light or severe. He gives various modes of treatment employed by others and by himself. He decidedly condemns bleeding, and is not in favor of opium. He is clearly of opinion that the expectant method is the most successful, the foundation of which is diet and diluted drinks. Energetic treatment fatigues and exhausts the patient, without benefiting him ; often greatly injuring him. The author gives thirty-one cases, with the mode of treatment, and the result.

Some remarks follow, on the means to be employed by those who work in lead, or in the arts in which it is used, for preserving themselves from its deleterious effects. The public mind was strongly moved by the representations of their sufferings, which were made a few years ago, and the result was, different scientific bodies were addressed, and the author of the volumes now under notice in particular, was requested to inquire what preservative could be found. For this purpose, he opened an extensive correspondence with artists and others employed in lead and its various preparations, often visited their establishments, and may be said, in truth, as he tells us, to have lived among the laborers. He has thus been able to collect many important facts and suggest many rules, the observance of which will give partial security. That is all which can be given to laborers in lead and its preparations. The preventive means are ventilation ; sponges applied to the mouth and nostrils ; habits of cleanliness ; cleaning the mouth and teeth with pulverized carbon ; never to eat in the apartments where the work is carried on, for some were found both to cook and eat their food in them ; to avoid all irregularity and excess ; never to labor before breakfast in lead works ; to use good and nourishing food, milk both for food and as an aliment, flesh, with the best vegetables, and a little wine or beer taken with food. These, with certain apparatus and defences of the person, and a particular mode of constructing furnaces, and other mechanical helps, are mentioned as diminishing the frequency of attack ; but nothing, as we said, can give perfect security.

ART. IX.—*Natural History, Pathology and Treatment of the Epidemic Fever, at present prevailing in Edinburgh and other towns, illustrated by cases and dissections.* By JOHN ROSE CORMACK, M.D., Edin., F.R.S.E., &c., &c. London, J. Churchill, 1843. Pp. 182.

THE opportunities possessed by Dr. Cormack, of observing the disease described in the above named work, were derived from his physicianship to the New Fever Hospital at Edinburgh. He divides the disease into the moderately and the highly congestive forms of the disorder, and having taken accurate notes of the symptoms of each case, at every visit, at the bedside, and recorded the autopsic appearances in the anatomical theatre, he presents us with a most accurate account of the natural history and pathology of the affection. The latter is confined, however, wholly to cases of the second form of fever. Cases of the moderately congestive form of the disease were marked by a peculiar appearance of the countenance of the patient, which, for want of a better term, is designated by the epithet, *bronzed.* A cold, hot and sweating stage marked, with remarkable similarity of nature and order of occurrence, the invasion of the disease. Speaking of the "highly congestive" form of the disease, Dr. C. (p. 23) remarks, that "although many of the cases issuing in death, or characterized by extreme severity, present symptoms very different (from that of the milder form), there can be no doubt that *the disease is essentially the same, the difference being one only of degree*, as will be more especially unfolded hereafter. *Both forms* are, *undoubtedly, the result of the same morbid poison.*" "One of the most common symptoms in this latter form of the disease, *is yellowness of the conjunctiva, and of the whole surface of the body.*" "Associated with the yellowness, there is generally depression, less or more delirium, dusky and often porter colored urine, black melæna-like stools, and hæmorrhages from some of the mucous membranes. In the worst of the cases, *black coffee-ground-like matter is ejected from the stomach*, and passed per anum." In fact, these patients had, to all intents and purposes, *yellow fever.* "Yellowness and black vomit," says Dr. C., p. 89, "have, by most writers, been taken as characters of special disease; and we find remittent and continued fevers, when prevailing epidemically, each described under the designation of yellow fever. A very cursory, if judiciously directed, study of the literature of this disease, will convince any one, that the term "yellow fever" is applied to fevers differing essentially from one another in their character, constitution and mode of propagation." In a visit made some years ago to places where *the yellow fever* of Louis prevailed, Dr. C. never heard any diagnostic characters of that fever, excepting yellow skin and black vomit, "*consequences of congestion liable to occur in fevers of all types and countries.*" Christison, in his article on continued fever, contained in the Library of Medicine, mentions "disorder of the hepatic system, accompanied with *jaundice*," as an "important, though rare complication." "Some," he says, "have imagined this affection to be allied in nature to the yellow fever of hot countries, but with what justice it is not very easy to say." The facts contained in Dr. Cormack's book will assist in forming an opinion on this subject. Sporadic cases of yellow fever occurred in Paris after the hot summer of 1822, of a type decidedly typhoid. Dr. Stokes, in the article Enteritis, in the Cyclop., and Graves, in his Clin. Med., describe cases of yellow fever which they treated in the Meath

Hosp. of Dublin, *during the epidemic* of 1827. The latter remarks that "*there is not so much difference between the diseases of Ireland and warmer countries, as has been imagined.* They differ, it is true, as to their degrees, *but not as to their pathology*" (p. 215, lib. cit.). In fifteen cases, Dr. Graves could detect "*no difference in the symptoms which they presented, and those which characterize tropical yellow fevers.*" In both, he tells us, the seat of the disease is a violent inflammation of the mucous membrane of the stomach and duodenum, a fact asserted by Dr. Physick in our own country. "In the yellow cases of the fever now prevailing in Edinburgh," says Dr. Cormack, p. 92, "this same altered state of the gastro-intestinal mucous membrane is found," "and indeed," he says, also, p. 93, "the correspondence was complete between the symptoms of my cases and that considered by Dr. Graves common to the yellow cases which occurred in Dublin, in 1829, and to the yellow fevers of tropical climates." Dr. Cormack (p. 95) mentions instances to show that "in certain circumstances, traumatic fever assumes all the characters of yellow fever;" and quotes a passage from a clinical lecture by Dr. G. Ballingall as "valuable, because tending to establish a point which I am anxious to make out, viz., that yellow skin and black vomit are not *specific, but accidental characters of a fever*" (p. cit.). "When," says Dr. C., p. 96, "we see yellow fever suddenly breaking out in a ship far from land, and when there has been no communication during the voyage with any vessel or town where the fever was at the time, since leaving a healthy port, then we must look for *some other cause than contagion, or march miasma.*" This something is probably a putrid effluvium from the hold. "The most rational explanation of the yellowness," says Dr. C., "seems to be that it is the result either of an absorption of bile, or of its non-elimination from the blood;" "when we remember the disordered state of the secretions, and *the diseased condition of the blood*, it seems most natural to conclude that the bile has either not been secreted, or secreted in very small quantity," p. 98. The erroneousness of this conclusion is established by the fact that in many of the autopsies, the gall bladder and intestines contained the usual quantity of this fluid, though not of the healthiest kind. Secondly, the author directly afterwards adds, that the bite of a particular kind of viper, and the eating of certain kinds of poisonous fungi and fishes, cause the skin and secretions to become speedily yellow. "The primary effect," he very properly adds, "both of the poison of the yellow fever, and of the bite of the viper, seems to be upon the blood," p. 98, and it is to the changes produced in this fluid, in all cases, that we may with propriety ascribe the singular coloration which has given its name to the disease in question. Probably this too, with the *superabundance* of biliary discharges occurring in the so-called *bilious* remittents of our southern climate, has caused this epithet to be applied to them.

"So distinct," says Dr. C., notwithstanding variations in some of the phenomena of certain of the cases, "was the connecting link of cases between these groups, that it never occurred to me, nor to any else, I suppose, to consider that these variations constituted *two distinct fevers.* Arbitrary methods of classification, and the dressed up descriptions of systematic authors, make it appear to the cursory student, *that the fevers of tropical climates are different from those of this and other temperate climates;* whereas, were epidemics of different climates studied, as they actually occur, it would be found that fevers *differ as to their degree, but* *not as to their pathology*"—(99). In Jamaica, intermittent fevers, common continued fevers, yellow fever, bilious remittent fever (arbitrarily, says Dr. C., separated from it) and synochus, are all prevalent, and "the cases styled remittent fevers might very often," says Dr. C., "with as much propriety, have been called yellow fever, and in the other classes difficulties would occur as to the distribution"—(100).

"The rosy elliptical eruption, resembling measles, was absent in almost every case," in the epidemic described by Dr. C. (103.) This assertion is afterwards qualified by the observation, "with some rare exceptions." "And further," in p. 105, it is said, "its *general* absence, and *occasional presence*, are both points of resemblance between it and the (typhus) epidemic of 1817–20, described by Dr. Walsh, and which, in all its leading features, *is identical with the present*." Let us only observe, in this place, that the lenticular eruption is not common in typhoid fevers of a high grade of intensity, and that in every milder case of such fevers they are not of necessity to be found. This fact, the absence of the typhoid eruption, leads Dr. C. to cite the remark of Dr. Alison, and with him to inquire, "whether this kind of fever has proceeded from the same poison as the usual typhoid fever of Edinburgh, *or is truly a separate disease*." Dr. Alison speaks doubtingly. Dr. C. evidently inclines to the opposite opinion. "This much," he says, "can at all events be stated, that *there is such a thing as persons being occasionally affected with the measly eruption, in addition to the usual symptoms of the present fever;* such persons, moreover, apparently getting the disease from a contagious poison, evolved from, or generated by persons congregated together, affected only with the prevailing form of the fever"—(106). Every one must see, at once, that it will not do to establish distinctive differences of diseases, upon such grounds as these. And so thinks the author. "When," says he, "I commenced the observation and the study of the present fever, and indeed for a considerable time afterwards, I regarded it as *essentially and totally* different from typhus; but recent circumstances, and more matured weighing of evidence, have greatly modified this opinion. As the season advances, all the cases have been more characterized by depression and general typhoid symptoms. The cases of continued fever, with and without measly eruption, are becoming more common in Edinburgh and in Glasgow"—(107). That the blood is diseased in this fever—that it is contagious—that it is communicable by fomites—are all shown by the author, and admitted.

Autopsies are published of eight cases, showing, 1st, abundance or even excess of bile and pervious state of the biliary ducts; 2d, more or less congestion of organs, with frequent extravasations. "These appearances are either identical," says Dr. C., "with, or analogous to, what the majority of observers have noticed and described, as being those which are found *in persons dying of yellow fever;*" and some of these authorities he cites, in proof of the assertion—(120). It is absolutely incredible, that in the present state of the question of Fever, *no allusion is made, in any dissection, to the state of Peyer's glands*—a fatal and unpardonable omission on every account! The sequelæ, treatment and statistics of the disease, we pass over, and sum up our notice of the work by saying, that it is a faithful and accurate history of the disease (though the morbid anatomy might have been given in fuller detail), and a valuable contribution to Pyretology.

But, before closing this notice, there are circumstances both of a general and local interest, connected with the subject of fever, which induce us to revert to the facts contained in the volume before us. The first class of cases described by the author, present some peculiarities which indicate in the beginning extreme venous congestion, and in their progress bear a faint resemblance to intermittents of the "pernicious" kind. They are cases neither of true typhus, remittent, continued, or intermittent fevers; and if ever any form of simple fever has deserved the name of a distinct and different disease from any yet recorded, it is that which Dr. Cormack has described under the title of the "ordinary or moderately congestive form." Yet we find Dr. Cormack considering this and the highly congestive form as the same disease, and these the same disease as the ordinary continued fever, or typhus, of Edinburgh. Now, while this form of fever cannot be exactly likened to any one of the forms of fever generally described, continued, typhus, remittent, or intermittent, there are still points enough of resemblance between them, to establish the fact of their relationship, and to constitute them not distinct diseases, but varieties of the same. Thus, after the first forty-eight hours, "the tongue becomes dry, and longitudinally streaked on the centre with brown," &c. (p. 4); during the first four days the patients are in a state of dry ardent fever, with occasional sweatings. In some there is diarrhœa and dysentery (p. 5), debility (p. 7), lenticular spots (9), sudamina (18). Let us, then, noting particularly the fact that some very unusual phenomena occurred in this disease, agree with Dr. C. *in considering this as typhus*, varying in part only from the ordinary typhus of Edinburgh. Be it observed, in passing, that none died, save the very old.

We find, next, that the highly congestive form of the fever, a disease essentially the same, and the result of the same morbid poison, was attended by symptoms and lesions which differed in no perceptible degree *from those of the yellow fever of tropical climates*, and which forms of yellow fever are not uncommon either in Ireland or Scotland, and have occurred in France. We have the assertion of Dr. Graves that they differ in degree, but not as to their pathology! The same state of the stomach as found by Physick in Philadelphia, and the same condition of the liver as described by Louis at Gibraltar, existed in some of the cases related by Cormack (p. 124, line 4). There existed, then, in Edinburgh, in 1843, a true epidemic yellow fever, of endemic origin, *not the product of marsh miasma*, *infectious and contagious*, and this disease Dr. Cormack, no doubt correctly, considers as neither essentially nor totally distinct from the ordinary typhus of Edinburgh, which, in its turn, is the same as the typhus of England, France, Germany, and America.* Thus, then, *the typhus of these places*, *the mild and highly congestive form of the Edinburgh epidemic of* 1843, *and the yellow fever of tropical climates*, *are the same disease*, offering only certain un-essential differences in phenomena and in degree. Let us carry out this idea a little further. We have had, at different times, epidemics of yellow fever prevailing among ourselves, engendered—to use the language of Rush—in our own bowels. Such a form of fever is continually prevalent in the southern sections of our country, where it is called "bilious remittent." It has even occurred within a year at a distance of a very few miles. Is our domestic yellow fever, is our southern and endemic bilious remittent fever, typhus fever? Are they all one and the same disease, differing in degree but not in pathology? Is it, indeed, the fact, that fevers do not differ specifically from each other? (Copland.) Let us interrogate facts: 1st, Typhus is infectio-contagious. 2nd, Yellow fever and bilious remittent are infectious only. 3rd, But the question of the non-contagiousness of yellow fever is not settled. 4th, If the highly congestive form of the Edinburgh epidemic is yellow fever, it *is* contagious. 5th, Bilious remittent cannot always be diagnosticated from yellow fever; *ergo*, if yellow fever be sometimes contagious, it may be so too; a single case of clearly proved contagion establishes, be it remembered, the contagious nature of a disease, though but one in a hundred thousand. 6th, The following passage is entitled, according to the able Editor of this Journal, to our fullest confidence: "The facts are numerous and indisputable, that the yellow fever has been communicated to individuals who have visited vessels, on board of which one or more persons have had that disease, *or which vessels came from a place where it prevailed*, and they have imbibed the infection not only while the cargoes were on board, *but after they were discharged and the vessels thoroughly cleansed*." See case of U. S. brig Enterprise, this Journal, for Nov., 1843. The circumstances mentioned in italics are instances of contagion by fomites, not of infection by malaria, which could no longer have existed, and, if correct, as cannot be doubted, entitle the yellow fever to rank among the contagious (infectio-contagious) diseases. And thus we see how, in certain cases, in the language of the report made to the Board of Health, from which we are quoting, "*the disease may come to us from abroad*." 7th, Yellow fever and bilious remittent are of local and vegeto-miasmal origin. 8th, But, there are spreads of typhus of similar origin (Hudson); and, according to Cormack, Graves, &c., typhus and yellow fever are the same disease. 9th, There are other causes of "yellow" fevers than vegetable miasm; such a discoloration of the skin being not a specific, but an accidental character of a fever. 10th, The yellow color of the skin and secretions being an effect of a change wrought primarily or secondarily in the blood, by the action upon it of a morbid poison, may occur in any case of fever, all being the result of some such intoxication, either vegetable or animal. 11th, A yellowness of the skin, conjunctiva and secretions, occurring in the course of a fever, does not necessarily confer upon it the epithet "bilious." 12th, If the typhus of Edinburgh and elsewhere, the "yellow" fever described by Cormack, which proceed from the same poison, and the "yellow fever" of the tropics, be the same disease, and not separate ones, there is another cause for "yellow fever" than marsh miasma, either a vegetable or an animal one; and whereas other fevers produced by this cause are contagious, the poison being multiplied, eliminated, and excreted, an argument, like causes producing like effects, is afforded for presuming the contagiousness of "yellow fever," although under favorable circumstances only in a slight degree. 13th, Yellow fever has broken out in vessels at sea, under circumstances which show that it must have originated on board such vessels, from local causes, as the formation of putrid miasmata in the hold, etc., and not from persons or places infected with the disorder. Typhus fever has many times had a similar limited origin. 14th, The cases of "yellow fever" which occurred sporadically at Paris, in 1843, were of a type decidedly typhoid—the bilious fever of Rondout, in 1843, presented the same peculiarity; every continued fever tends naturally to this state, and never, if long continued, however simple in its commencement, fails to become so: if to these facts we add the consideration of the close resemblance between the typhus and "yellow" fever of Edinburgh and Ireland and the "yellow fever" of the tropics; that these and every essential fever must have a specific cause, whose action must be exerted either on the brain and nervous system, or upon the blood, inducing necessarily, according to the intensity of its action, a typhoid state; we see reason for concluding that all fevers not symptomatic are but different forms of the same disease, typhus, varying in minor points of symptomatology, etiology, and pathology, according to particular circumstances; species of the same great genus of the Febrile class. (See note on p. 183 of our Pyretological Inq., vol. ii., No. 5 of this Journal.) 15th, Several cases of the Edinburgh "yellow" fever presented the measly eruption of typhus, and as the disease continued, assumed more distinctly the typhous form; while cases of the common continued fever of the place became daily more numerous, showing that as the peculiar intensity of the morbid poison, to the action of which upon the blood the phenomena were owing, declined, by oft-repeated multiplication of itself and the influence of other causes, so the disease resumed its wonted aspect when originating from a less powerful morbific agent, and the malignant "yellow" typhus became the ordinary typhus, or the simple continued fever of the locality, a striking proof of "a difference in degree, but not in pathology." Such are the *pros* and *cons* upon the subject, and however little the reader may be disposed to accede to the correctness of the reasonings we have employed, we defy him to deny the accuracy of the facts upon which they are founded. "The truth is in the facts, and not in the mind that observes them." A few words, in conclusion, on a subject of controversy germane to this matter. It is known to every reader of this journal, that there prevailed at Rondout, Ulster county, in this State, in the months of August and September, 1843, an epidemico-endemic fever, an elaborate account of which is given in the 3d No. by the accomplished editor. This epidemic was supposed to be tropical yellow fever, and to have been imported from the West Indies, in the Schooner Vanda. The falsity of this latter idea Dr. Forry has ably demonstrated; but it still remains a disputed point, what was the disease which really did prevail there. By Drs. Forry, Vaché, Manly, and we believe every other observer but one, it is maintained that it was an indigenous, non-contagious, malignant remittent fever, with a great tendency to assume the typhoid type. By another physician, who had made the study of yellow fever the business of years, and had really had ample opportunities of observing it in the place of its nativity and prevalence, it is contended that the disease was really analogous to the "yellow fever" of the tropics. We have here opened the important and difficult question of the identity or non-identity of tropical yellow and American bilious remittent fevers, and secondarily of these with continued, typhus, or typhoid fevers. To respond to it, it would be necessary to enter at large into all the diagnostic marks which distinguish each, to compare the one with the other, and to draw, if practicable, the lines of discrimination between them. For this task we have, of course, neither space nor time, however strongly our inclinations may lead us to attempt to fulfil it according to the best of our ability; but, as a preface to a few remarks bearing on the subject, we take leave to say that it would be one of extreme difficulty, even if feasible, and that probably it would be found that after all, the shades of difference are so few and faint, and those of resemblance so strong and many, as to make it no easy matter, in every case, to separate and classify them. Cases of what is termed "bilious influenza" had occurred at Rondout for some time previous to the arrival of the Vanda. Of one patient it is said that, as "early as June, he was attacked with the *bilious remitting form of* influenza, characterized by extreme yellowness of the skin and eye, with vomiting of a dark bilious matter, resembling what was subsequently designated as 'black vomit,' *and also by great vital depression.*" Influenza is a specific fever, of which catarrh is one of the attendants. It may embrace then, it seems, the phenomena of bilious remitting, yellow, and typhus fever, and be "influenza" still—another proof of the close connection between all forms of fever of specific origin. Of twenty-eight cases reported by Dr. Forry, as occurring at Rondout, about ten had yellowness of the skin and conjunctiva. Three of these cases we shall briefly analyze. "G. C., art. 33., attacked with fever Thursday 31. Sat.: More redness of eyes; *yellowness of the skin*, which is a new symptom in the case; constant change from better to worse, and *vice versâ;* great *prostration.* Sunday: Occasional *delirium*, gastric irritability, slight *epistaxis*, skin yellow, tongue moist and slightly furred, very red at tip and edges. Monday: Much prostrated—tongue same—occasional vomiting of dark fluid—*epistaxis—delirium*—skin lemon-colored—discharges of a dark fluid with shreds suspended in it—*hiccough—picking of the bed-clothes*, *hands tremulous*, *subsultus.* Died in four days. Dark bile and swallowed blood in stomach, *not* the peculiar black vomit of yellow fever. Muc. mem. of the stomach highly inflamed and softened. Liver and intestines natural." The reader will observe that the symptoms italicized occur in typhus, and in view of the other symptoms, we may inquire what would this disease have been called, if it had occurred at Gibraltar, during the visit of Louis, or at New Orleans in the sickly season? It is true that there were wanting the true black vomit and the pathognomonic state of the liver, insisted on by Louis; but we shall find that, in all epidemics (even in that which we are now considering), there exist cases of the prevailing malady in which some or other of the symptoms fail. "G. L., 35. No notes of first 3 days. On fifth day, suddenly prostrated. The countenance expressive of great languor and oppression; *delirium*, succeeded by manifest *stupor* and *deafness; the tongue dry*, *brown*, and *the teeth and gums encrusted with a dark*, *dry*, *and tenacious sordes*, and the chest marked with *vibices;* tongue protruded with great difficulty, tremulous, and not easily returned. Sixth day: Entirely listless, with stertorous breathing." This case, we do not hesitate to say, presents a full assemblage of every symptom of *pure malignant typhus*, having none of the yellowness of eye and skin, bilious vomiting, &c., characteristic of other cases of the epidemic; and here again we see the close alliance existing between these varied forms of disease, occurring in the same locality, in the course of the same epidemic. Under the same specific exciting influence, one man has typhus, another bilious remittent, with, in the language of the reporter, "a strong tendency to assume the typhoid type." Are these dissimilar or different diseases? "W. P. sixth day of fever. Skin hot, dry and yellowish; conjunctiva yellow, with vessels much injected; tongue covered with a dry, dark coat along the centre, with very red tip and sides, much epigastric tenderness and gastric irritation." "Is this," says Dr. Forry, in a letter to Dr. Vaché, "yellow fever?" Let us contrast the symptoms thus detailed, with those mentioned by Louis, in his account of the Gibraltar epidemic of 1828 (Dunglison's Pract., p. 553, Rem. Fev. 3. *Yellow Fever.*) "Heat, not often intense, succeeded to the chills. Eyes red, glistening and suffused. Pain at the epigastrium, nausea and vomiting. To the injection of the integuments of the chest, there succeeded a slight yellow tint of the part, the eyes were of the same color, the color becoming rapidly brighter when occurring thirty-six or forty-eight hours before death." Thus far we have an identity of symptoms which could not have failed, had the case occurred under the observation of Louis, to have caused it to be considered as one of "yellow fever." Louis does not mention, or Dunglison quote, the state of the tongue. Dr. D. cites L. as saying that, in many severe cases which recovered, and in mild cases, *there was no yellowness* (524, 525). Case 24th related by Dr. Forry, after well marked symptoms of the *bilious* remittent fever then prevalent, having convalesced, sunk suddenly with something very like "the collapse of cholera," having rice-water discharges by the mouth and rectum, another proof of the close connection which exists between all classes of the pestilential epidemics. The last case contained in this excellent memoir, is that of E. F., who had from Friday 8th to Wednesday 13th, "simple continued fever," slightly remitting on Wednesday. On Thursday night she suddenly sunk and died. "This case," says Dr. F., "during life, had not one of the peculiar symptoms of the prevailing fever;" yet we find it developed under the same influences, occurring simultaneously with others of the truly bilious form, and terminating in the same rapidly and unexpectedly fatal manner, and cited as an instance of "the prevailing disease." In the case of a Mr. Beaver, also noticed, the characteristic symptoms of the prevailing fever ended in three or four days in a tertian ague. We have now sketchily indicated the close connection which exists between common typhus fever, yellow fever of the tropics, the highly congestive form of typhus of Edinburgh and Dublin, considered by Cormack and Graves to be analogous to it, and the bilious remittent fever which lately prevailed at Rondout, and perhaps we may say that of our own country, and must leave it to the reader to decide how far the connection justifies us in pronouncing them all to be modified forms of the same disease, or separate diseases. The very doubts which exist after the closest scrutiny, show the inherent difficulties of the subject, and we find Dr. Forry, at the close of his careful researches, observing "that inasmuch as it is easier to make a distinction of disease in theory than to realize it in some instances in practice, we would not quarrel with any one who should designate it an *indigenous and a non-contagious yellow fever*" (Jl. p. 335). Every *remittent* fever is of necessity a *continued* fever; the Germans, with great propriety, style it "*febris continua remittens.*" Armstrong makes one great genus, Typhus, of which Continued Typhus, Remittent Typhus, and Intermittent Typhus are species; and why not "Bilious" Typhus also? The great difference is in the cause of origin. Typhus originates from either animal or vegetable effluvia; intermittent, remittent, bilious, and yellow fever, and cholera infantum (which, says Dr. Hosack, App. to Thomas' Pract., is similar to the autumnal bilious remittent fever of adults), and spasmodic cholera chiefly from vegetable causes; but this has nothing to do with the symptoms which they exhibit. So numerous and so close are the points of resemblance which they present, defying, as they often do, the delineation of a distinct line of separation; so often and so readily does the one form of disease run into and assume the character of the other, that, looking to their common origin and viewing the phenomena as the mere expression of its action on the economy, it is difficult, if not impossible, to deny to them a common nature, or to refuse our assent to the doctrine of Copland, "that all fevers are specifically the same." These are not novel and peculiar opinions: increased reflection, however, satisfies us more and more of their correctness, and every authority which we examine, adds to the number of their supporters. The opinion of Armstrong, "that intermittent, remittent, and continued fevers, arise from the same cause and are *the same disease*, with certain modifications;" and that of Watson, that "there is but one species of continued fever, although there are many varieties," we have elsewhere cited (note to the Pyretolog. Inq., p. 2d, this Journal for March, 1844, p. 282)., And in our essay on the Cholera Infantum, published in the Med. Gaz. vol. 1, No. 19, we quoted the following passage from Dr. Ed. Miller (dec.), "The cholera of infants forms one branch of a long stock of diseases, as much distinguished for the universality of their appearance, as for the diversified character they occasionally assume. Another form of them, more familiarly recognized by the public, is that of *remittent and intermittent fevers*. More comprehensive views of this subject have enlarged the number of them, by bringing back to their proper station many diseases, formerly so much disguised in external appearances, *as to conceal the fact of their radical relation*. And it will not be surprising, if this simplification should be carried much further, nor if our successors should group together a still larger assemblage of diseases, and demonstrate *their origin from one common cause*." Prof. Rush tells us that in the yellow fever of 1803, in Philadelphia, the mild remittent, the inflammatory, bilious and malignant yellow fever, *in many instances ran into each other*"—and, in 1803, says Caldwell, "as the fever receded, its evanescent shades were in many instances much lighter than the common remittent of the country." In Baltimore, too, it was noticed, says Prof. Davidge, "that the bilious or remitting fever prevailed in its ordinary form, and continued until it was gradually lost in the severer forms of yellow fever as the season advanced." (Dunglison, Pract., vol. 1., p. 522.) Speaking of remittent fever, the author just named observes that, "It has been doubted whether continued fever should be received into our nosological arrangements; and with propriety, perhaps, all its forms might be considered under the head of Remittent Fever; for, if we carefully notice the cases that are classed under continued fever, we can scarcely fail to observe, that in some part of the day, the febrile symptoms are more severe than in others" (501). "The epidemic yellow fever of this and other countries has been referred to it, although upon this subject much difference of opinion exists, and they certainly appear to be, *anatomically*, different diseases" (501). The anatomical differences, as we have already shown, by our quotations from Cormack and Graves, are not so great as this passage would lead us to suppose. And we have further to remark, that whereas fever is an essential disease, and all the lesions met with, consequences of the action of the morbid poison and not causes of the fever, it is to the causes of fever and not to the particular lesion, which, in the fashionable parlance of the day, constitutes its "anatomical character," but which is neither necessary nor constant, not less than to the general symptoms, that we are to look in establishing its nature. It is impossible, in the present state of our knowledge, to classify a disease by sole reference to its anatomical characters. But of this hereafter. "The common bilious fever of this country partakes, says Dr. Dunglison, "greatly of the continued fever;" and again, "Remittent fever, from being mild at the onset, may extend beyond the second week, and present functional phenomena characterized by great ataxia and adynamia:" "all the signs that characterize the typhoid state;" or, as he elsewhere says, "typhus fever." And again: "The more malignant forms of remittent, essentially congestive in their character, resemble greatly the pernicious Intermittents." We have offered these cursory observations, not to settle, but simply as items for consideration in the settlement of the interesting question of the Identity of all Fevers, and that of "Yellow Jack," with our Autumnal Bilious Remittents. Before we dismiss the subject, which our space forbids us much further to pursue, and from which, like the famous Messalina from her amorous enjoyments, "Lassati, non satiati, recessimus," let us examine, hastily, a work which, from the value of its contents and the manner of its execution, has the strongest claims to our respect and approbation: the "Hist. Diag. and Treat. of Typhoid and of Typhus Fever, with an Essay on the Diag. of Bilious Remittent and of Yellow Fever. By E. Bartlett, M.D., 1842."

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* It will be recollected that we do not admit that typhus and the "typhoid affection," the more common form of fever in this country, are, as Gerhard, Bartlett, &c., maintain, different diseases.

From the recapitulation of the principal points of difference between typhus and the remittent fever, presented by the author, we shall select and consider the chief. 1st. In the mode of access, "which is *generally, but not always*" more sudden and more formally marked. 2d. The *uniform absence* of any characteristic cutaneous eruption. If the fever described by Dr. Cormack was not typhus, *it was* bilious remittent, varying in some respects from ordinary typhus; and we have seen, that although generally absent, "the rosy elliptical eruption, resembling measles," was *occasionally* present in it. This eruption, then, is not, as Dr. Bartlett says, "uniformly absent" in remittent fever. 3d. The frequent sallowness and yellowness of the skin. If, as Dr. Cormack supposes, the disease which he has described was typhus, yellowness of the skin does frequently occur in it. 4th. In the state of the mind and senses, which are *rarely* perverted or affected in any considerable degree. From a report of cases of remittent fever, treated in the New York Hospital, &c., by N. Shook, M. D. (N. Y. Jour. of Med. and Surg., No. 1), we make the following memoranda. Case 3d. Pulse 110 last night, with some delirium, but easily aroused and answers questions rationally. Case 4. The *stupor* changes to slight delirium in the evening. Case 5. Delirious in the night—stupor changes to delirium in the evening, during the exacerbation. Case 6. Stupor, but easily aroused. Case 7. Mind confused, at times delirium—delirious all night. Case 8. Muttering delirium. Case 11. Extreme prostration, *almost perfect coma*, answers no questions—lies upon his back, sordes about the teeth and gums—desires constantly to pick his lips and tongue—pulls the bed-clothes—high fever—subsultus tendinum at the wrist. There is no mention made of any yellowness of the skin, yet the case, says Dr. S., furnishes a fair example of at least one quarter of the patients that are admitted during the months of September and October, in the fevers contracted at the South. Whether this man had meteorism, is not mentioned. He had no petechiæ. What was this? Case 13. Muttering delirium—answers no questions—

cannot protrude the tongue—great prostration of strength—sordes—*tympanites—sudamina*—no *petechiæ*—no mention of yellowness. The stomach inflamed; duodenum and jejunum very much inflamed—glands of *Peyer scarcely visible*—those of Brunner prominent, not inflamed; liver hardened, *bright yellow color*, distinctly granulated and containing little blood—Spleen large and softened. The symptoms, as Dr. S. may well remark, "at the time of admission, *very much resembled those of typhus fever*, but the previous history of the case (he had been attacked *three weeks before*, on the passage from Savannah), and the more characteristic symptoms (?) sufficiently distinguish it from that disease." After reading this account of the state of the cerebral functions in severe cases of remittent fever, most of which symptoms are as severe as are ordinarily met with in the typhoid affection, we leave it to the reader to say whether Dr. Bartlett is justified in founding on the fourth peculiarity which we have quoted, a distinctive difference between typhus and remittent fevers, and would remark in passing, that this is not the only instance in which this distinction has been founded on grounds equally slight and untenable. 5th. In the state of the tongue, which is *usually moist*, and covered with a thick whitish or yellowish coat. We refer again to Dr. Shook's cases. Case 1. Tongue *dry*, and coated with a thick *brown* fur in the centre. Case 2. Tongue *entirely dry*, covered in the centre with a thick *brown* fur, red at the tip. Case 4. Tongue *dry* in the centre. Case 6. Tongue moist, coated with a *brown* fur. Case 7. Tongue clean, pointed and *dry* in the centre. Case 8. Tongue clean, *dry* and pointed, red at tip and edges. If the color of the fur of the tongue, and its dryness, or moisture, are to be considered important marks of difference between these two diseases, we beg to be allowed the benefit of the argument afforded by its condition in the above six cases. 9th. In the absence of sordes from the teeth and gums. In reference to this *very important* diagnostic difference, we beg to say that in case 8, related by Dr. Shook, who has very much neglected this point in his symptomatology of the disease, there were "*sordes about the teeth*, tongue dry and cracked, eyes glazed, muttering delirium, and vomiting of everything taken;" in case 11, *sordes* about the gums and tongue; in case 13, *sordes* about the teeth and gums, so that in three cases, the only ones in which it is noticed, this valuable sign of typhus *was* present in cases of remittent fever. 6th. In the great frequency of nausea and vomiting. We find this symptom alluded to as common in abdominal typhus, by Southwood Smith, and mentioned in seven cases; but we freely acknowledge its much greater frequency and violence in remittent and yellow fever than in typhus; nevertheless, in six of Shook's cases it did not occur, and in two of these, it is distinctly stated, that there was "no nausea or vomiting." 7th. In the fullness, tenderness and distress across the upper part of the abdomen. In eight of the twenty-eight cases of abdominal typhus detailed by S. Smith, pain in the epigastric region is especially noticed. On these two last items of the diagnosis then, nothing very positive, it appears to us, can be founded. We come now to differences more worthy of our notice, and of a sound philosophy. 8th. In the pathological alterations of the stomach, *liver* and spleen. To this and every argument drawn from morbid anatomy, in favor of the separate nature of particular fevers, we make an uniform answer; *these pathological alterations are not the causes of the fever.*

They are, as we have elsewhere taken great pains to demonstrate

(Pyret. Inq., No. 3), secondary consequences of the states of the blood and nervous system induced by the morbific cause. It is to this that we are to look as the essential cause, and if this be the same, then the fever, whatever be the symptomatic lesions with which it may be accompanied, even although sufficiently uniform to constitute its "anatomical character," is the same. Dysentery is always dysentery; small pox is always small pox, &c., because the specific virus always produces its specific effect; but the true *Febres*, being the result of animal or vegetable miasms, are the same diseases, the peculiar phenomena which they exhibit being due to peculiarities in the patient, the composition of the miasm and its modus operandi, &c., &c., which escape our explanation. But while we maintain the radical general similarity and identity of all the essential fevers, let it not be supposed that we refuse to acknowledge the reality and practical utility of those divisions which usage has sanctioned and established. The typhoid tendency, the general phenomena, and the cause being, as all admit, essentially similar in all *Fevers*, if it were found that in a particular form, say the bilious remittent, one lesion was invariably present and characteristic, it would, since it is only secondary, constitute after all only a mere difference of form and perhaps of degree, and not a total radical and essential difference and dissimilarity of nature. If hereafter a *variety* of small pox should appear, uniformly associated with a peculiar lesion, of the kidney for example, it would still be small pox and nothing else notwithstanding. And so of every essential fever.* But even this is not the fact with regard to the follicular lesion of typhus, frequent as it may be—nay, not even to the eruptions which characterize certain of the febrile class, and to which the intestinal eruption is analogous; nor with respect to that pathological lesion which Louis would make the anatomical character of the yellow, and Stewardson of the bilious fever. This latter lesion is, after all, *the only one* with which we have really anything to do, in considering remittent fever, though others have been mentioned, "for it is," says Dr. Stewardson, in his paper on the remittent fever, in Am. J. of Med. Sc. (undoubtedly the best pathological history of the disease which has ever appeared, and a perfect model of accurate and scientific observation, reporting, and reasoning), "the only one which is peculiar to the disease before us, all the other lesions being common to it and other diseases." It was found by Stewardson in every case; but in one of Dr. Shook's cases, which he considers as quite distinguishable from typhus, the liver did *not* present the peculiar appearance which Dr. Stewardson considers as characteristic; it was "hardened, of a *bright yellow* color, distinctly granulated, and containing very little blood." In another, "of a yellow color, hard, granulated, large and anæmious." In four of Dr. Cormack's cases, which were either yellow fever or bilious remittent, we find it stated in one that the "liver was natural;" ditto in a second; in a third, "liver firm, *dark colored*, turgid with blood;" in a fourth, "of a dirty, pale yellow." This last could hardly be the "bronze, between olive and grey," mentioned by Stewardson, but approaches nearer to the "fresh butter, straw, coffee, mustard, orange, or pistachio color" of Louis, in yellow fever. In the only post mortem examination made by Dr. Forry, in the fever of Rondout, which was either well marked bilious remittent or yellow fever, the "liver and spleen were in their natural condition." In two other cases reported in his paper, for which Dr. F. was indebted to the house physician of the N. Y. Hospital, in which they occurred, Dr. W. W. Jones, it is said that the liver in one had "rather a dark brownish red color," in the other was of an "orange yellow, rather dry when cut, and here and there somewhat rosy from minute vascular injection." The preceding quotations suffice to show, what is true of every lesion, we believe, in certain cases of all fevers, that no peculiar pathological state of the liver, &c., is constant and invariable in remittent fever, and can therefore be relied upon, which would not even suffice, to establish "differences, not of mere type, but of essential nature." (Stewardson.) This author fully recognizes the essential nature of fever. "In short," he says, "it seems to me that here (in remittent), as well as in typhoid and yellow fever, the characteristic anatomical lesions are to be regarded, like the pustules of small pox, *as consequences and not as causes* of the affections which they severally characterize, and that we must look for the latter in some morbid condition other than what is met with in the solid organs." To assign a special lesion as the cause of fever, is to disessentialize that disease; to remove it from the class of the pyrexiæ, and embrace it under another nosological head, according to the view which may be taken of the nature of the alteration. The argument then stands thus:

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* Fevers are either symptomatic, or idiopathic (*essential*); of which latter, the *eruptive* fevers constitute one division.

The cause of all idiopathic fevers being a morbid poison of miasmal origin (animal or vegetable), all fevers so originating must be considered as *essentially* the same disease, whatever *varieties* they may present, either of symptoms or of lesion, arising from the modified action of the same morbid cause upon the organs, through the medium of the hæmatosis or the innervation. Thus, then, the only real difference between typhus fever, intermittent, and the remittents of temperate and tropical climates, is in the fact of the vegeto-miasmal origin of the three latter, and the animal miasmatic origin of the former. But let it be remembered as a further connecting link, that typhus has had an origin distinctly paludal and vegeto-miasmal (Hudson). "The influence of locality," assigned by Professor Bartlett, as among the essential differences between typhus and typhoid fevers and remittents, *may* be explained by the effects of heat in decomposing certain vegetable products not met with elsewhere, and thus producing a peculiarity in the miasm, from which result particular effects upon the organism, a view which is supported by what is seen in typhus, the character of which is certainly modified by the pecularities of the miasmata by which it is engendered. That the functions of the liver may thus be affected in yellow and remittent fevers, as those of the intestinal follicles are in typhus and cholera, we will not attempt to deny, but that all the yellowness met with in those fevers is due to the influence of the bile in the secretions, we have previously shown to be susceptible of question. We have thus enumerated the "principal points" urged by Professor B., in attempting to establish the difference between typhus and typhoid fevers and remittent. Professor B. flatters himself that he has come to this task without prepossessions, and we do not doubt the sincerity of his intentions; but we do not think he has succeeded in avoiding the appearance of having written his book for the very and express purpose of establishing such differences, or in placing before the reader a fair and impartial statement of the arguments which may be advanced on *both* sides of the question. To the reader we must leave it to form his own opinions, whether, or not, the statements now made by each, do anything more than establish the fact of fever existing under a multiplicity of forms, from a common cause. If we should be thought unwise in urging this distinction, one of the most interesting and natural which the consideration of the question suggests, we shall take refuge from the shafts of ridicule behind the ægis of Rush, against which our antagonists may launch them at their pleasure. "It is not," says he, "more improper to say that men are of a different species, because some are tall and others short, or because some are long and others short-lived, than that fevers are of different species, because they vary in their symptoms and duration." It is curious that Dr. B., who so strenuously maintains the radical difference between typhus and typhoid, and remittent fevers, should assert that intermittent, remittent, and congestive fever, are *the same* disease (350). One of the reasons is, that there is "a general correspondence in the symptoms of these *three forms* of disease." We do not hesitate to assert, that the general correspondence of symptoms is not near so strong between a simple intermittent and a bad bilious fever, as between this and typhus. There is a general correspondence of symptoms between all fevers (the eruptive are not included), because all are only *forms* of the same disease, originating from a similar cause, and must, of necessity, have symptoms in common. "There is," he adds, "no one symptom, or group of symptoms, which may not be present, *with certain modifications*, *perhaps*, in the others" (551). Since the publication of Cormack's cases, the same observation equally applies to typhus, yellow, and remittent fevers. "Another, and still more unequivocal proof," continues Professor B., "of the essential identity of these *three forms of fever*, consists in the fact, that they are severally *convertible into each other*" (353). Have we not shown the same to be true as respects common typhus, and the bilious fever of Edinburgh and Dublin? of the yellow fever of Philadelphia? Have we not given instances of cases occurring, during an epidemic, of bilious remittent, which presented none of the distinctive evidences of the prevailing distemper, but were simple fevers of the typhoid type? Speaking of these three forms of disease (intermittent, remittent, and congestive fever), he says, "all these differences, however, *are mere differences of form and variety;* none of them are constant and fundamental, and they are hardly greater or more striking than those which are continually seen in scarlatina, small-pox and other diseases" (354), and what is here said, in a limited sense, of these fevers *only*, we apply to all. "Furthermore, these three forms of fever seem to be alike dependant on the same essential producing cause." Now, until Dr. B. can establish, on stronger grounds than he has done, the supposed essential differences between all fevers of the continued type, we shall take leave to consider them all as arising from "the same essential producing cause," and consider them *all*, as he, on this, and other equally applicable grounds, has done his three, as "mere differences of form and variety." We have yet to learn in what respect the grounds of classification he has established, are less proper to the one variety than to the others. Dr. B., on reasoning not less vulnerable than that which has preceded, inclines to believe yellow fever an individual disease, distinct from remittent. But on this point he avoids committal. From typhus and typhoid fevers, he thinks the distinctions so numerous and striking, that an error of diagnosis cannot easily occur. The perusal of Dr. Cormack's cases rather invalidates the force of this assertion. But both these gentlemen have labored zealously, usefully, and ably, in the cause of Pyretology, and have earned for themselves distinguished reputation, both at home and abroad, and while we honestly and respectfully differ from the latter in opinion, we highly recommend his well-written and valuable treatise to every physician, as, perhaps, the most useful which he can possess, and part from both with the expression of our high consideration.*

W. C. R.

Art. X.—*Principles of Pathology and Practice of Medicine.* By John Mackintosh, M.D., fourth American from the last London edition, with notes and additions, by Samuel G. Morton, M. D., Philadelphia, Lindsay and Blakiston. 1844, pp. 892.

That this volume should have passed to a fourth edition in this country, is a strong proof of its popularity. It is a most valuable epitome of medical practice, founded upon the most approved pathology, the state of which at the present day, it very accurately represents. No better book can be purchased by the student than this, which ranks with the excellent works of Graves, Armstrong and Watson, to which in style and arrangement it is closely allied. The author was a man of great learning, indefatigable zeal, and extensive practice. As a pathologist he was able, warm and enthusiastic. He writes agreeably, with clearness and vigour, and his book bears the marks at once of deep thought, close and correct observation, ample experience, and accurate knowledge of past and actual pathology. His treatment is energetic and judicious. Independent in the expression of his own sentiments, and confident in his own opinion, he is nevertheless candid, moderate and liberal. To his opponents he is sometimes severe, but generally just; to his friends affectionate, sympathizing and considerate; he differs honestly, censures not harshly, if decidedly, and he takes both pride and pleasure in awarding to all the praise which he conceives to be justly their due. Strictly conscientious himself, he loves truth and justice, and despises falsehood and unfairness. It is impossible to read the volume without being impressed favorably both with the moral and medical character of its gifted author, to whom, alas! censure or praise are now alike indifferent. The American editor, well-known as one of the savans of our sister city, in which professional character has attained to so proud an eminence, has added much valuable matter and filled up ably and usefully many hiatuses left in the original. To say that none yet remain or that some of the subjects are not susceptible of being given in fuller detail, and that some authorities are not neglected whose opinions merited notice, would be incorrect; but with even a few such deficiencies, the work is one of the most useful text books on the subject of which it treats, extant in our tongue, and should be in the hands of every student and on the shelves of every medical library. The mechanical execution of the book is excellent, but its size and weight and that of other analogous volumes, renders them difficult to be read in the hand. Cheapness in volumes of this size, outweighs convenience. Further eulogium on this favorite authority would be superfluous.

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* It would be possible to show that intermittent fever has had an animal miasmatic origin. The same is true of remittent fever (Dunglison). It is proved, also, by the cases which Cormack has published; and if we decide to consider them as analogous to yellow fever, we must acknowledge the same as true of it also. The disease observed by him was either typhus, yellow, or remittent fever, or all are one and the same. Its contagious nature demonstrates its animal, its epidemic origin, its vegetable miasmal source. And what is true of it under one appellation applies to all the others. Thus, all the forms of fever may be developed under the influence of the same causes, and are, therefore, specifically, the same disease. Q. E. D.

W. C. R.

Art. XI.—*Enchiridion Medicum; or, the Practice of Medicine; the result of fifty years' experience.* By C. W. Hufeland, Counsellor of State, &c. &c. 2d edit. from the 6th German. Translated by C. Bruchausen, M. S. Revised for the proprietor by Robt. Nelson, M. D. N. Y. Wm. Radde. 1844. Pp. 630. With an Essay on the Three Cardinal Means of the Art of Healing; by the same Author. P. 79.

The name of its venerable and eminent author confers upon this volume a claim to our highest respect. It is the "depository" into which are cast the final results of the "long experience" of one of the most distinguished practitioners of a land famed for its erudition and the flourishing state of medical science within its bosom. There does not exist another volume on the practice of medicine, which comes before the public with a stronger right to be read, studied and relied upon. It is all that it is intended to be; "a complete, though compact manual, divested of all hypothesis; a clinical guide for the junior practitioner;" a guide to thought, to diagnosis, to the essentials of practice, to the treatment of disease. The publisher has rendered a most acceptable service to the profession, in presenting to them the experience of so celebrated a physician as Hufeland, and a volume of German practice, to which very few, except under its present form, could have access; and we earnestly hope he may be rewarded by the quick sale of the edition, for his commendable enterprise. It is much to be regretted that the study of the German language is so much neglected, and that the mass of the profession remain for ever in ignorance of the vast mines of practical utility and scientific erudition, concealed beneath its hieroglyphic characters and harsh-sounding phraseology. The volume before us supplies the hiatus as to the views and practice of our German medical brethren, and all would do well to possess it, not less on this account than on that of its intrinsic merit, and the value ofthe clinical teaching of the venerable, experienced and gifted Hufelan The first nineteen pages are devoted to a consideration of the relations of the physician to the sick, to the public and to colleagues, which abounds in just sentiments, couched in charming language, which, if duly attended to, cannot fail to benefit both the patient and the profession. Diagnostics and the cognition of the sick and of disease, the order of the rational mode of healing, and maxims and general rules for physicians, concisely, but usefully and ably treated of, occupy the next sixty pages. Then follow the diseases, according to classes, each receiving a brief notice; none of which can be read without profit and advantage. There are peculiarities in the classification, which it is not worth while to point out, but which detract nothing from the practical remarks with which the history of each disease is accompanied; and, lastly, a collection of many formulæ, which, though savoring of polypharmacy, will be found to be admirably composed, and of immense value in the actual treatment of disease. The cardinal means of healing treated of concisely, but extensively, in reference to practice, are bleeding, opium and emetics, a class of remedies which are, evidently, great favorites with this experienced physician. This portion of the work is of the very highest practical value and importance. The whole style of this interesting and practically valuable, or we ought, perhaps, to say, *invaluable* volume, is eminently aphoristic. "Every fever," says Hufeland, "in the very same individual, can be transformed into all the different species of fever and exhibit them successively."—(79.) "Fever," he elsewhere says, "although essentially one and the same thing, assumes several modifications by the variety of the system from which it proceeds, or which it particularly attacks."—(81.)

To attempt to analyze a work so purely elementary, would be perhaps unnecessary, but it could not fail to be highly instructive. We are most disposed to complain of the cursory way in which many affections are treated of; as twelve lines only are devoted to "typhus icterodes," less than a page to cholera, one to peritonitis, seven to all the hydropes, and so on; but this is perhaps unavoidable in a mere manual. Many of the subjects, moreover, are treated of in sufficient detail, and really very little of what is actually known and valuable is omitted. We have said that there are peculiarities in the nosological arrangement with which we might be disposed to differ, and a sanguineness as to the recommendation of a good many remedies little used among us, about the efficacy of which we might be sceptical; a spirit of polypharmacy of which we disapprove, although the author's great experience, the result of the practice of half a century, entitles every recommendation of his to credit and respect; but still we consider the volume a very valuable and instructive one, the work of a learned and observant man; one from which much may be gained by study, or usefully to be consulted on an emergency. It is an excellent epitome of German theory and practice; remedies are copiously and somewhat hastily, nay, even incongruously, enumerated; but there are many formulæ given which, in obstinate cases, deserve a faithful trial, on such authority. It is well worth buying, studying, and consulting, and to lay to heart the facts, &c., which it contains, could not fail to make a humane, conscientious, honorable, well-informed, sagacious, ready and judicious physician. Eternal honor to the memory of the good old man, who teaches us to treat our colleagues with respect and indulgence; never to judge with severity, harshness, or contempt; or disclose faults, and try to raise ourselves by lowering others; who justly and beautifully says, "Oh that I were able to impress the minds of my brethren with this truism as forcibly as I am penetrated with it myself—He who degrades a colleague, degrades himself and his art;" who tells us that the most sublime vocation of man, after worship of the Deity, is that of being priest of the vital flame, and an administrator of the highest

Divine goods and the most secret powers of nature—physician! The physiatric an dgeneral maxims and medical ethics of a Hufeland deserve to be published separately, in a small compass, for the constant study and adoption of the profession, and from them also the public might gather many valuable hints, to be recollected and acted upon in that much dreaded hour,—

> "When fell Disease extends his giant hand,
> To stretch the suff'rer on a bed of pain;
> When Manhood yields, and Hope despairing flees,
> And Nature calls on Art for aid amain."

W. C. R.

ART. XII.—*Medical Communications of the Massachusetts Medical Society.* Vol. VII. Part III. Boston. 1844.

THE principal portion of this volume is occupied with the Annual Address, before the Society, by Dr. John Homans of Boston, on the character and qualifications of a Good Physician. The style and matter of the address are both excellent. The remaining portions are occupied by reports of Committees on subjects of local interest, tending, however, to show the useful objects to which the attention of the Society is directed.

J. A. S.

ART. XIII.—*A Treatise on Pathological Anatomy.* By CARL ROKITANSKI, M. D., Professor Extraordinary of Pathological Anatomy at the University of Vienna. Part I. Containing the abnormal conditions of the Organs of Respiration. Translated from the German, with additions on Diagnosis, from SCHOENLEIN, SKODA, and others, by Dr. JOHN C. PETERS. New York. WM. RADDE, 322 Broadway. 1845. pp. 164.

THE work now before us is the first specimen of German Pathological Anatomy that has been presented to the medical profession in America. The author appears before us as Professor Extraordinary in one of the most celebrated European Schools of Medicine, besides being connected, we believe, with the great Vienna Hospital, the largest in the world. His opportunities have enabled him to make, as we are informed in the preface, over twelve thousand post mortem examinations, a much greater number than has, or probably, ever will again fall to the lot of any pathological anatomist. Thus supposing Rokitanski to have been engaged for fifteen years in his pathological researches, he must have averaged more than two post mortem examinations a day, Sundays included! We may then very naturally ask, what else has Rokitanski done besides conducting post mortem examinations? This is probably his occupation. He holds the position of Professor Extraordinary, a title which does not exist among us, but which we believe came very near existing a few years ago, in the organization of a Medical School in this city. The title corresponds very nearly with the French title *aggregè*, and is a regular appointment of the University, but the instructions given by those who hold it, are not the subject of examination, or considered essential to a degree in medicine. These professors are usually young men who aspire to a regular professorship, and who consider the advantages of being connected with a great medical school and hospital, and the practice of teaching such as choose to take advantage of their instructions, the best means of insuring their ultimate success. Such is the position of Rokitanski; he conducts the post mortem examinations of cases that have been treated by others, but does not himself take charge of, or even observe the cases during life. The course pursued, we believe, is as follows: the subject is brought to the autopsy room—the case is read, and the diagnosis formed during life, stated; the examination is then made, the professor pointing out the morbid appearances as they present themselves, and observing how far they correspond with, or differ from the opinions formed during life.

There are advantages and disadvantages in this system. There is likely to be more honesty of purpose. A clinical professor, who has given a decided diagnosis during life, and in the presence of a class of students, is very apt to smoothe over his mistakes at the post mortem examination. There is likely also to be more accuracy in the exhibition of what is actually known and well understood in the pathological changes that are found after death, for the observer is not apt to be led away by theory, and his opportunities for the careful observation of actual appearances are much increased. But on the other hand, no actual progress in pathological knowledge can be expected from such observers; they can point out accurately what is already known, but they cannot advance. He only can do this who joins the careful study of the symptoms and treatment during life with the appearance noticed after death. The real labor, the true talent is not in the dissecting room, but at the bedside; this is the foundation, that but the seal. It is this that renders the labors of Casswell so inferior to those of Cruveilhier, and which gives to the labors of Louis a superiority to which few in the annals of medicine have ever approached.

These opinions appear to us to be confirmed by reading the treatise of Rokitanski. Its merits are its simplicity, its conciseness, its honest and accurate descriptions, its absence of all speculation and pedantry. Its great fault is, that it is not a *book of progress*. What a noble work should we have had presented to us, had Rokitanski, with his twelve thousand post mortem examinations, added one quarter as much to our previous knowledge as Laennec did, who probably never made one tenth part as many!

We were surprised in reading a work coming from the most distinguished medical school in Germany, the country of Liebig and Müller, to find no allusion to the light which recent investigations in animal chemistry, and with the microscope, are calculated to throw on the elementary characters of morbid anatomical changes. We cannot suppose our author to have been ignorant of these matters; perhaps, and there is much reason in the opinion, he does not consider the conclusions which have been already drawn from these sources, sufficiently established to be admitted into a work which is professedly made up of facts.

In expressing our opinion of Rokitanski's work, we would by no means be thought to have formed an unfavorable opinion of its merits. We prize it as an acquisition to our medical literature, and will say without hesitation, that as a work on pure pathological anatomy, it has not been surpassed by any that has yet appeared. The translator, sensible, no doubt, of its deficiencies in some of the important particulars to which we have alluded, has endeavored to supply them by many valuable and copious notes on the symptoms and diagnosis. We have never known this task better executed.

We have not been disposed to extend our notice of Rokitanski's work by the addition of many extracts from its pages. We will, however, conclude this notice by quoting the remarks on the "*Curative processes in Tubercles of the Lungs*," as one of the best portions of the book, and as illustrating the admirable manner in which the author unites clearness of description with conciseness, the best internal evidence of accurate original observation.

"Tubercular pulmonary consumption is doubtless *curable*, as may be inferred from not unfrequent appearances in the dead bodies of those who formerly had more or less suspicious affections of the chest, from which they recovered. We can only expect to arrive at a truly rational and certain method of treatment, by an investigation of the circumstances under which such spontaneous cures have taken place; and the consequences of such treatment will be the more beneficial, as it will be directed not merely against the abscesses in the lungs, but against the tuberculous dyscrasia also. Pulmonary consumption and tuberculous abscesses may only be cured after the general disease, and hence that process which lies at the foundation of its local effects, viz., the tubercles and abscesses, has been eradicated. Under such conditions it has been proven, by numerous incontrovertible facts, that tuberculous abscesses may heal, and in fact in several different ways.

"*a.* The reactive inflammation in the interstitial tissue around the caverns, deposits, as has already been remarked, a gelatinous infiltration, which obliterates the air-cells. This henceforth occasions a conversion of the collective adjacent parenchyma into a dense, fibro-cellular tissue of varying thickness. While this is taking place, the exudation which is deposited on the walls of the cavern by the same inflammatory process, changes into fibro-cellular tissue, and from thence becomes organized into a smooth serous membrane, which unites intimately with the former. The whole tuberculous abscess has now become transformed into a *cellulo-serous cavity*, from the internal surface of which a serous, sticky, synovia-like fluid is secreted. The bronchi which open into these cavities present a peculiar appearance, for the serous membrane which lines the sac, and the fibro-cellular tissue below it, become attached to the external sheath of the tubes, while the mucous membrane of the latter projects with a shreddy and somewhat inverted free edge into the cavity of the sac.

"But more commonly we find the abscesses lined with a *villous, cellulo-vascular*, more or less dark red, muco-membraneous-like layer, which is intimately adherent to the subjacent tissues. It appears to be in a constant state of irritation, and as it is usually found in caverns which communicate with large bronchial tubes, it would seem that its constant exposure to the influence of the air prevents its being converted into a smooth serous membrane. Doubtless an already formed serous lining may be again broken down by the irritation thus induced, into such a cellulo-vascular, muco-membranous-like tissue. It secretes a turbid, muco-serous fluid, and not unfrequently we find it covered with fresh exudations in consequence of higher degrees of irritation. In all probability these irritations, coupled with other causes, effect a gradual diminution and final closure of the caverns, in a manner subsequently to be described. In such caverns the appearance of the bronchial opening is different from that already described, for the mucous membrane of the bronchus coalesces with the analogous tissue which lines the cavern, and both run into each other without visible lines of demarcation.

"At times plates of bones are developed beneath the serous lining of the caverns, in like manner as they are formed in the cellular tissue beneath healthy serous membranes.

"In such caverns an accident not unfrequently takes place, the like of which had not previously occurred, and which very often proves fatal at the outset. We allude to the *hemorrhages* which take place from abscesses thus constructed. They always spring from large permeable branches of the pulmonary arteries which traverse their walls, and are laid bare to some extent. These blood-vessels may open in two different ways:

"*a.* They either undergo an aneurismal dilatation, in consequence of an absence of support on the side turned towards the abscess, and finally give way at this place, without their tissues having undergone any other alteration of texture.

"*b.* Or the delicate cellular sheath of the vessel participates in the irritation which is going on in the adjacent lining membrane of the abscess; this extends to the fibrous coat, which becomes loosened, softened, and infiltrated with gelatine; then the vessel gives way, either with or without having suffered a previous dilatation of its coats.

"An occurrence deserving of attention sometimes attends these hemorrhages. The extravasation of blood into the cavern at times coagulates into a fibrous mass, which fills it completely, and is connected with a neck-like prolongation, which penetrates into the lacerated opening of the vessel, and is continuous upwards and downwards, with a cylindrical coagulum in the latter. The abscess may certainly close around this mass of fibrine, when the latter has become contracted and chalky; but as the abscess, in its previously described state, must be regarded as a simple non-malignant cavity in the lungs, which may heal in a safer and simpler way, this method of cure must be looked upon as an uncertain and dangerous one, except in cases where the abscess does not communicate with a bronchial tube. Hence, it is only so far of actual benefit as it affords a support to the vessels seated in the walls of the cavern, and thus prevents subsequent hemorrhages, which might occur before the abscess is healed by safer and more common processes.

"The already described cavern must be regarded as a healed tuberculous abscess, but the cure may progress further, viz., to perfect cicatrization, i. e.:

"*b.* If the abscess be not too large, it may close by a gradual approximation of its walls, which finally touch and unite with each other. We then find a cellulo-fibrous stripe in the place of the former cavern; the bronchi terminate in it in a blind cul de sac. This process takes place most frequently in the apices of the lungs, in which the presence of open abscesses, together with obsolete and chalky tubercles, sufficiently marks the nature of the process which has been going on. The obliteration of the cavern always occasions a degree of sinking in of the chest, proportionate to its size, and also a cicatrix-like puckering and contraction of the pleura; this is observed more plainly and frequently after the closure of the often quite superficial abscesses situated in the tops of the lungs. The thorax also sinks in, in a degree proportionate to the size and number of the closing abscesses, as may be inferred from the frequency of flattening or pit-like indentations in the sub-clavicular regions.

"The approximation and agglutination of the walls of the abscess may be essentially aided by various occurrences, among which belong the sinking in of the walls of the chest, the compression of the lungs by the diaphragm, from enlargement of the abdomen or some of its organs, the emphysematous dilatation of the parenchyma adjacent to the abscess, bronchial dilatation, &c. It has been proposed and attempted to produce one or the other of these conditions in artificial and sometimes forcible ways; we have given our opinion of the propriety of such attempts at cure in the first volume, and have pointed out the effects which they may produce.

"If the curative process sets in and proceeds very rapidly, the cicatrix may enclose chalky concretions of various sizes, formed by the inspissation of a remnant of tubercular pus.

"*c.* The abscess may not cicatrize in the above described manner, but is filled up by a roundish or irregularly branched mass of fibro-cartilaginous tissue, in which the bronchi terminate, formed by the conversion of its cellulo-fibrous walls into a fibro-cartilaginous callus, which progressively becomes thicker and thicker. In such cases, a slight contraction only of the parenchyma ensues.

"This fibro-cartilaginous mass may be transformed, sooner or later, into a very compact bony concretion of corresponding size and shape.

"2. The second metamorphosis which pulmonary tubercles undergo, under favorable circumstances, is the very opposite of softening, viz., the *chalky transformation.* After the softening of them has commenced, or even been perfected, they gradually become thickened into a yellowish white, or greyish or blackish grey, smeary, chalky paste, which finally changes into a chalky concretion, of much smaller size than the original tubercular mass. This concretion is seated, according to the intensity and extent of the reactive process in the neighborhood of the softening tubercles, either in obliterated pulmonary tissue, or in a fibro-cellular, or callous fibro-cartilaginous capsule. In this case, also, cicatrix-like contractions of the parenchyma take place in the direction of the chalky tubercles.

"*Tubercular infiltration,* doubtless, may also undergo the same chalky transformation, for we not unfrequently find pasty masses of chalk, especially in the apices of the lungs, and aside of chalky tubercular granulations. In size and form these masses correspond to the lobules of the lungs; they are surrounded by a quite delicate sero-cellular capsule, composed of condensed interlobular cellular tissue, and in all probability are chalky *lobular* tubercular infiltrations.

"3. Finally, the crude, grey, tubercular granulations may become *obsolete,* shrivel together, and wither away. They are then found changed into opake, bluish-grey, cartilaginous, resistent tubercles, or nodules, which are subject to no further metamorphosis. This abortion or dying away of tubercles, either affects them wholly, or else only partially, and is then combined with chalky transformation, so that we find their central portions converted into chalky concretions, which are incapsuled in a layer of obsolete tubercular matter.

"In accordance with what has been above laid down, it is evident that pulmonary tuberculosis may be cured by the intervention of phthisis and the ejection of the tubercles; but the two last described metamorphoses represent more direct curative processes. Either may take place under like favorable circumstances, and as a rule we find them all in one and the same individual, for we may see cellulo-fibrous cavities, their cicatrices, and chalky and obsolete tubercles in the neighborhood of each other. All of these are commonly impacted in obsolete parenchyma, which is saturated with black pigment."

J. A. S.

Art. XIV.—*Report of the Sanatory Condition of the Laboring Population of Great Britain. A Supplementary Report on the results of a Special Inquiry into the practice of Interments in Towns, made at the request of Her Majesty's principal Secretary of State for the Home Department.* By Edwin Chadwick, Esq., Barrister at Law. London: Printed by W. Clowes & Sons, for Her Majesty's Stationery Office. 1843. pp. 279.

The custom of burying without the walls of the city was very prevalent among all ancient nations, and the contrary custom is comparatively of modern origin. The great evil of interments within and around churches, had its origin in the superstitious veneration for sacred places. The heathen never buried their dead beneath the floors of their temples, and even interments within cities was scarcely ever allowed.

The subject of selecting rural places as cemeteries having been frequently of late brought before the public, it may not be thought irrelevant to refer to the prevalent usage of former times, and to the fact, perhaps not generally known, of the steady efforts which have been incessantly made to put a stop to the contrary practice on the part of those possessing political and moral influence, and the sanctions which have been given to this influence by a series of ecclesiastical councils; for we can add nothing interesting of matter strictly professional to the vast amount of proof already existing of the injurious effects on the living by crowding the city with the dead.

That it was the custom among Jews to bury the dead out of the city every one knows, and some of the Greek and Latin terms for interment signify "carrying out." This time-honored and universal practice continued until the time of Constantine, who was buried within the porch of the church which he himself founded. From this period the practice of burying in churches and church-yards rapidly increased, but not without great opposition from the very commencement.

In the year 381, interments were utterly forbidden within the city by the Theodosian code, which, in 529, it was thought necessary to ratify by the Emperor Justinian, so extensive had the practice become. This again was made the subject of ecclesiastical legislation in the year 563 by the council at Prague, and again by the council at Auxere in 586. Charlemagne in 827, the council of Winchester held in 1076, and in later times the good old Latimer, used their efforts to restore the ancient custom of suburban cemeteries. These are but a small number of the attempts made, by statutary enactments, and pastoral advice, to arrest a wide-spread and growing evil. From the "nullo modo intra ambitum murorum civitatum cujuslibet defuncti corpus sit humatum" of one of the early councils to the wish of Sir Christopher Wren, that interments should be "in cemeteries seated in the outskirts of the town," there has been one unremitted opposition to a custom so fraught with evil, which was established by superstition, and is now maintained by custom and pride.

Among the latest efforts to improve the custom in burials, is the report before us. It is an elaborate investigation of all the circumstances relating to the interment of the dead, including both the sanatory and economical arrangements. On the subject of the influence of the dead upon the living, it is replete with valuable and important statistical details, the result of minuteness of investigation, which is without parallel. The injuries to the health of survivors, occasioned by the delay of interments; the dangers arising from the escape of putrid emanations, even from deep graves; the tainting of wells; the propagation of acute diseases, and all the evils which may possibly arise from interments in churches, or in towns,—are clearly exhibited by a large accumulation of interesting facts.

The importance of the subject will, we trust, be a sufficient apology for allusion to another matter, growing out of the consideration of this department of hygiêne.

The interment of bodies within the precincts of the city, is but a small part of its hygiêne; and yet we see with what care this subject is investigated on the other side of the Atlantic; what an amount of laborious investigation is brought to bear upon it; what talent and learning are employed in its full elucidation, that nothing may be left undone for securing the health of the inhabitants. Why is there not more attention paid to these matters among us, where the government is expressly organized for the good of the people? Instead of having the sanatory condition of 400,000 people supervised by some one of the many men of science, whom all delight to honor, what do we see? Perhaps one in office, who is remarkable for nothing but extreme obscurity and ignorance; whose sole claim to scientific distinction consists in having a bunch of shrunken roots dangling at the door of a petty shop, devoted to the sale of root beer, skunk cabbage, and other exsiccated indigenous "yarbs," to designate the proprietor as belonging to the host of infallible practitioners, and of the species known as "Indian Doctors;" and whose official notices bear such indubitable marks of the grossest ignorance, as to be a lasting disgrace to the authority that appointed him to so honorable and responsible an office! Surely the condition of the necessitous poor alone, would demand at the hands of those who have the charge of the health of so great a mass of people, at least that it be looked after by "counsel learned in the law" of physics. J. S.

Art. XV.—*Dissertation on the respect due to the Medical Profession, and the reasons it is not awarded by the community.* By Worthington Hooker, M.D. Read at the annual meeting of the Connecticut Medical Society, May 3, 1844. pp. 28.

Doctors are a discontented race, and it may be that they have sufficient reasons for being so; when it is, doubtless, a great relief to the overburdened mind and jaded body, occasionally to have some good, comfortable groans over their peculiar miseries, in a private, sociable, confidential and brotherly way. But we very much doubt if any good can arise from the publication of their distresses, and the exposure of their weaknesses. The amount of all we have read in this pamphlet is, that there are some men in the medical profession who are not so good as they ought to be, and who thereby bring discredit on the noble art itself, whereupon suitable respect is withheld "by the community" from the whole tribe. Now we can see no reason why this state of things should cause any disturbance among high-minded men, much less that it should be a reason for a call for "an increased cultivation of the esprit du corps, and an abandonment of temporary emolument, whenever required to advance the interests of the whole." It would not be worth all this trouble to remove all the vexations among us, mentioned in the dissertation. Quackery and humbug, both in and out of the profession, have always existed, and for aught we know to the contrary, always will exist, and it is one way to elicit suitable respect to look upon them with dignified professional composure.

Charlatanism has existed in some form or other from time immemorial; the ancients abounded in quacks, and it is an error to suppose, as is generally the case, that they are now more numerous than they ever were before. The Chaldeans, Egyptians, Arabians, and other nations, of whose history we have written accounts, had their full share of this species of imposture. The Romans had their seplasiarii, and all writers, both ancient and modern, who have mentioned the subject, give a tolerably fair account of the same tricks which are now used, to impose upon the credulous. Hippocrates speaks of the prevalence of quacks, and accounts of these gentry in the Spectator, more than a century ago, appear almost to be derived from the actions of distinguished and successful medical impostors of the present day. In the 444th number of the Spectator, published in 1712,—132 years ago, there is an account of quackery as it then existed, by which it appears to be pretty much the same as it is now. The following are his introductory remarks :

> "It gives me much despair in the design of reforming the world by my speculations, when I find there always arise, from one generation to another, successive cheats and bubbles, as naturally as beasts of prey, and those which are to be their food. There is hardly a man in the world, one would think, so ignorant, as not to know that the ordinary quack-doctors, who publish their abilities in little brown billets, distributed to all that pass by, are to a man impostors and murderers ; yet such is the credulity of the vulgar, and the impudence of these professors, that the affair still goes on, and new promises, of what was never done before, are made every day. What aggravates the jest is, that even this promise has been made as long as the memory of man can trace it, and yet nothing performed, and yet still prevails."

So much uniformity in all ages, and in every country, would lead us to look for a similar reproduction in the amount of moral phenomena on this subject, as has been found to exist in others, and which has been noticed in the article upon vitality contained in the present number of our journal. Deaths from quackery would make an interesting item in vital statistics, and be a curious addition to the second table at p. 324. J. S.

Art. XVI.—*Thoughts on Quarantine and other Sanatory Systems, being an Essay which received the Prize of the Boylston Medical Committee of Harvard University, in August*, 1834. By Charles Caldwell, M.D. [Veritas atque utilitas antiquitati præponendæ sint.] Boston : Marsh, Copen & Lyon. 1841.

Thoughts on Moral Medicine, being an Introductory Lecture. By Charles Caldwell, M.D. Delivered Nov. 4, 1834.

Thoughts on Hygiène, as applicable to hot climates, more especially to the Mississippi Region, and to New Orleans. An Introductory Lecture, delivered, Nov. 8, 1836. By Charles Caldwell, M.D.

These essays by our venerable brother, are characterized by that acuteness of observation which marks the practical physician as distinguished from the mere speculator. Worthless, indeed, are the wire-drawn distinctions that can never be brought to be of any practical use ; but, as in the example before us, invaluable are those lessons which have their foundation broadly laid alike upon sound theory and close and enlightened observation. It is this which will render the occasional essay of past days valuable, as a treasure to be kept, when the immediate cause of its publication has ceased to exist. J. S.

Art. XVII.—*A Manual of Chemistry, containing a condensed view of the present state of the science, with copious references to more extensive treatises, original papers, &c. Intended as a text book for Medical Schools, Colleges and Academies.* By Lewis C. Beck, M.D., Professor of Chemistry in Rutger's College, New Jersey, and in the Albany Medical College. Fourth edition, revised and illustrated with numerous wood cuts. New York; W. E. Dean, 1844, pp. 480.

Dr. Beck's treatise needs no praise from us; its extensive adoption in numerous Colleges, and the rapid succession of editions, prove that its merits are duly appreciated. In the present edition the original plan of the work is steadily pursued, while all the improvements of the science have been introduced into it, so that there is scarcely a page which has not been altered or amended, and in many parts entirely recomposed. There is no doubt that it will be still more extensively adopted as a text book of Chemistry. J. S.

Art. XVIII.—*Anatomical Atlas, illustrative of the structure of the Human body*, by Henry H. Smith, M.D. Parts IV. and V.

These numbers complete the series of this beautiful work, which fully merits the praise bestowed upon the earlier numbers. There is one engraving, however, for which, in its details, the delineator has evidently been indebted solely to his imagination, and to which we would direct the especial attention of students for whom the work is chiefly intended. We allude to the elegant representation of the anatomical theatre which adorns the cover, where all the disciples of the lecturing professor are represented in every variety of attitude usually assumed in a lecture room, taking notes, etc., *but each one with his hat off.* Now this last mentioned particular is so great an inaccuracy, that we could not pass it by unnoticed. It is no other than an ideal representation, an idle fancy, a mere creation of the brain, having no foundation in truth. With this exception, we regard all the engravings as possessing an accuracy only equalled by their beauty, and cordially recommend the work to all engaged in the study of Anatomy. J. S.

Art. XIX.—*The Medical Student, or Aids to the study of Medicine. A revised and modified edition.* By Robley Dunglison, M.D., Professor of the Institutes of Med., etc. Philadelphia. Lea & Blanchard. pp. 311.

If the student fails in attaining the object of his pursuit it will not be for want of sufficient assistance to help him onward through the rough roads and sloughs which impede his progress to knowledge. If he desires it, he may choose the patient, pains-taking method of investigating huge tomes of learning, and thus travel slowly, but surely, onward, as if in an old French Diligence, or a country lumber wagon; or should he wish to avail himself of short cuts, or of the locomotive high pressure system of being bewildered by half a dozen lectures a day, on half a dozen different subjects, with attendance on the dissecting room, which happily for his very existence "is not regarded as obligatory,"—he may also thus travel. Whichever he chooses, here is presented to him a kind hand gently to help him in, and to guide him in his proper course. A most valuable assistance it is to all students, and we doubt not will be duly appreciated by all who may become familiar with its pages.

J. S.

Art. XX.—*The Cyclopædia of Practical Medicine.* Parts XI., XII., XIII., XIV.

The remarks in our last apply equally to the present number of this excellent work; which really is, upon the whole, so good as to render the toil of the editor in revising and adding by no means burdensome.

J. S.

Art. XXI.—*Medicines, their Uses and Modes of Administration, including a complete Conspectus of the three British Pharmacopæias, an Account of all New Remedies, and an Appendix of Formulæ.* By J. Moore Neligan, M.D., Physician to Jervis' street Hospital, and Lecturer on Materia Medica, etc. With Notes and additions, conforming it to the pharmacopæia of the United States, and including all that is new or important in recent improvements. By David Meredith Reese, A.M., M.D., late Professor of the Institute of Medicine and Surgery in the Washington University of Baltimore, etc. New York: Harper & Brothers. 8vo. pp. 453.

This is a valuable condensation of existing knowledge upon everything relating to the medical application of chemistry, pharmacy and pathology. It therefore contains a greater variety of subjects than its title would indicate—"Medicines and their Uses;" rather an unusual characteristic in any book. The American editor, who has availed himself of all the aids within reach to improve the work, has added the nomenclature and pharmaceutics of the United States pharmacopœia, and thus rendered it highly valuable, if not indispensable, to the American practitioner. A more extended notice of this work is necessarily deferred to our next. J. S.

Art. XXII.—*Philosophy of General Principles, an Introductory Lecture, delivered before the Medical Class of the Berkshire Medical Institution, Aug.* 1, 1844. By H. H. Childs. pp. 32.

This is a singularly bold and original performance, characterized by an independence of mind as rare as it is meritorious.

The author avows himself a supporter of the *Brunonian* doctrines, which, we had supposed, were generally exploded; but so it is, as will appear from the following extracts from the Doctor's summary of "Sound General Principles," of which the doctrines aforesaid constitute in his opinion the foundation. "All abnormal action or disease must be characterized by *debility*." "The terms, sthenic disease, and disease of excessive excitement, are inapplicable, so far as they imply the necessity of resorting to remedial agents for reducing the powers of the system as a whole." "All diseases are diseases of debility; the first arising from a deficiency of stimulus, the latter from the excessive application of it. But the result is the same as regards the remedial agents, which must all possess the character of mediate or immediate *stimulants*."

Prof. Childs, moreover, is no *solidist;* for, he observes, "Effluvia, Malaria, and all gaseous poisons act primarily on the fluids, either by changing their constituent properties, or by their serving as the media through which the poison operates upon the system."

We are not disposed, at present, to question the soundness of these "Sound General Principles," but as the lecturer is a highly popular teacher in three, if not four medical schools in our country, we would humbly suggest whether the Anti-Brunonians and the vitalists ought not to bestir themselves, lest these doctrines should obtain such a foothold among American physicians, as to require centuries of literary toil before they be put down so as to "stay put." Verb. Sat.

Art. XXIII.—*An Essay on the Philosophy of Medical Science.*—By Elisha Bartlett, M.D., Prof. of the Theory and Practice of Medicine in the University of Maryland. October. pp. 310. Phila.; Lea & Blanchard. 1844.

We have not room in the present number of our journal, for such a notice of this philosophical and elegant work, as its merits justly demand. It is evidently destined to create quite a sensation in the medical world; and we shall therefore give an extended analysis of its contents, accompanied by some comments, in our January number. In the mean time, we advise all our readers to purchase and carefully read it.

PART THIRD.

1.

Foreign Medical Intelligence.

ANATOMY AND PHYSIOLOGY.

1. *A short Account of a One-eyed Monster.*—The monster in question, which was a female, had a well-formed body and limbs, of the usual size at about the eighth month of utero-gestation. The head was nearly half as large again as natural, reposing upon the spine in almost a straight line, having but a trifling angle forwards; and, except at its posterior part, deviated in most respects from the normal form. In the usual situation of the frontal bone, arose a large, prominent, uniformly-rounded tumor, evidently the result of a deficiency in that part of the bony parietes, and rising forwards was palpably filled with fluid. This tumor was partly covered with hair.

Immediately below it was a single eye, perfectly central, sunk in no depression, but on an uniform level with the surrounding parts. Besides this eye no feature of the face was present; not a trace of mouth, nose, chin, or cheeks; but, about an inch beneath it, were situated the external ears, which, owing to the abrogation of the parts just mentioned, were enabled to approximate within an inch and a half of each other. Their long axes, moreover, had assumed nearly a transverse direction, their lower extremities being turned forwards; in which direction the meatuses also pointed; so that the only space which could have represented the face, even if any features had existed, was scarcely an inch and a half square.

The integuments of the head being reflected, the occipito-frontalis muscle and tendon were brought into view, forming, with the dura mater, the bulging walls of the tumor. On continuing the incision into the cavity of the skull, about two or three pints of clear amber-colored fluid were evacuated, and, in the centre of the floor of the posterior and middle fossæ, was disclosed a flattened, tongue-shaped process of nervous matter, protruding forwards from the spinal canal, and representing all that existed of the brain. It was three inches long by one and a half broad, symmetrical, azygous, without salient points, or trace of hemispheres or convolutions; its more important features, however, as of other parts of the nervous system, were reserved for a future examination, which was, unhappily, frustrated.

The occipital, parietal, and squamous portions of the temporal bones, had their usual forms and relations to each other, and appeared, from the progress of ossification, to have been eight or nine months old. The only trace of the frontal bone consisted of a narrow, ring-like portion, about two lines in breadth, just sufficient to form the coronal suture: the true frontal and orbitary portions were altogether absent.

This deficiency in the frontal bone, and also of the sphenoid (for little else than the body of this latter bone was present), and protrusion of the cerebral capsule, constituted a kind of *spina bifida* of the first of the three cranial vertebræ.

The middle and posterior fossæ of the base of the skull were of the usual capacity, whilst the anterior was, of necessity, altogether absent. The styloid process of the temporal bone, not anchylosed with the petrous portion, gave attachment to its proper muscles.

Of the bones of the face no vestige appeared, the finger, when directed to this part from before, impinging at once upon the body of the sphenoid bone, the skin alone intervening.

The eye was imbedded, as usual, in a quantity of soft fat, but was unsupported by any trace of bony orbit. There was present, however, what might be considered a peri-orbit, a continuance of the dura mater or cerebral capsule, which invested the optic nerve, and proceeded anteriorly, supported the eye, and blended at its extremity with the skin and tarsal cartilages.

The recti muscles of the eye were all present and well developed; their origins encircled the optic nerve, and appeared to arise from the periorbital membrane before alluded to, whilst their anterior attachments were normal. The superior oblique followed the usual course, its tendon passing through a membranous trochlea situated on the right side of the globe.

Of the auditory apparatus the only parts of which any rudiments appeared were the external ear, the meatus, and Eustachian tube. The former was large. but was remarkable only for the transverse direction it had assumed. The Eustachian was a continuous tube from the external meatus to the pharynx, of the same diameter throughout, and uninterrupted by any vestige of tympanum; it pursued a direction inwards, backwards, and slightly downwards, was a little curved, and lined with a smooth, whitish, mucous membrane. Its internal termination was at the posterior and upper part of the pharynx, immediately below the spine; the aperture was round and patulous, and very far exceeded in size the corresponding part in the adult. The whole length of this breathing tube, which, it should be observed, owing to a deficiency of the petrous portion, was in contact with bone by its upper surface only, was ten lines, and the distance between the internal extremity of either tube seven lines.

There was nothing unusual about the larynx; its diameter was three lines. The epiglottis was well formed.

The pharynx was capacious and had the ordinary relations; the only openings, however, into it were of the Eustachian tubes, the larynx, and the œsophagus. About a line above the os hyoides, which presented no peculiarity, was a bundle of muscular fibres having a transverse direction, the extremities, however, being somewhat deflected, so as to bear some analogy to an orbicularis oris; it formed the upper boundary to a transverse slit, which terminated, at no great depth, in a cul-de-sac, and suggested a resemblance to the mouth. On removing this muscular layer, a small, but well-formed tongue, shrunk down upon the os hyoides, was disclosed.

The bronchi and other contents of the thorax were quite natural; the lungs, collapsed at the sides of the spine, had received no air. The abdomen and limbs were perfect.

The various deficiencies in the head of this monster furnish some interesting examples of unequal advance and arrest of development during the transition from the simple to the more perfect condition. But there is something else than mere permanence of an early condition; for the eye was central, and the optic nerve traversed the sella turcica in the mesial line, a position it is never known to assume in the normal state during any period of uterine life. Two suggestions occur in explanation of this central single eye; either that it was the result of an early coalescence of the two, or that one was entirely absent, or so rudimentary as to have escaped detection. Of these, the former view is probably the more correct, for it accords with the symmetry which was observed of corresponding parts on either side of the head: moreover, in the centre of the margin of the upper tarsus, a slight indentation or notch was clearly perceptible, as if betokening a line of separation, and the two canthi bore the form of the external one in the natural eye. The only circumstance in support of the latter view was the existence of a single superior oblique muscle, which was attached to the right side. No satisfactory inference can be drawn from the presence of four only of the recti muscles; they may have been either proper to a single eye, or the external muscles of two united eyes. The subject was, unfortunately, destroyed before any dissection had been made of the internal eye.

The absence of any trace of nostril, and perhaps of true ear,* was connected, probably, with the absence of the nerves of the corresponding senses, and pointed to the fact that these diverticula from the brain exist prior to the formation of the organs in which they are destined to be lodged.

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* The absence of the tympanum alone was demonstrated, and not of the true ear.

There was, in the perfect formation of the middle and posterior fossæ of the skull, and other circumstances, reason to believe, that the brain had been, at one time, more fully developed than it was found to be at the examination: and that it had, together with some of the bones, suffered subsequently from the accumulated pressure of the fluid within the skull.

The main interest, however, of the case lies in the singular modification of breathing apparatus, which, judging from the scanty literature I am enabled to consult, is unrecorded. There is no doubt that, so far as a mere passage for air to the lungs is concerned, the Eustachian tubes would have amply fulfilled this office; for their conjoined calibres were even greater than that of the trachea, and, as in the apparatus there was nothing superadded, but a simple arrest in the development of parts, considerable testimony is added to the opinion of Huschke, who views the Eustachian tube as the remains of the superior of the bronchial apertures; the necessity for the permanent existence of this latter, in the present instance, resulting from the occlusion, or rather absence, of mouth and nostrils.

It is perhaps hardly profitable to glance at the curious medico-legal question which might arise if the abstract viability of such a monster were discussed. With a good chest and lungs, and with air-passages of sufficient dimensions leading to them, it is clear that the physical conditions for the performance of respiration were all present. The tubes, moreover, communicated with the pharynx and stomach, and although breathing had not in reality commenced, no light can be thrown in explanation of the fact of viability, in the absence of any knowledge of the circumstances attending the birth.—*London Medical Gazette.*

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2. *On Preserving Bodies for Dissection.*—Dr. John Ingliss, of Inverness, recommends a combination of the nitrate of potash and bi-chloride of mercury, for the purpose of preserving the muscles in their natural colors and effectually preventing the incursions of maggots. He dissolves from five to ten grains of the mercurial salt in a pint of water, and to this solution is added as much nitrate of potash as it will dissolve. To the naturalist it is invaluable; for if the skin of any animal is dipped in the solution and thereafter dyed, neither moth nor maggot will ever make an impression, nor will the color of either hair or feathers be in the slightest degree injured or altered.—*Lond. and Edinb. Monthly Jour. of Med. Sciences*, Sept. 1844.

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3. *Case of Malformation of the Heart of a Child, who expired on the fifth day after Birth.*—The child was well developed, and appeared to be in perfect health. On the third day it became soporose, sighed and had hurried respiration. The skin became dusky, breathing increased in rapidity, no fever, respiratory murmur puerile, with moist crepitus behind; the child died on the fifth day.

Autopsy.—There was only one large artery given off from the heart, and from this the pulmonary artery sprang. The thus united aorta and pulmonary artery was considerably larger than the aorta of so young a child. It proceeded from a large ventricle, which appeared at first sight to constitute the whole of the ventricular portion of the heart. The systemo-pulmonic artery was separated from the ventricle by semilunar valve, and from a very large auricle by tricuspid valve. Into this auricle entered by three openings, three pulmonary veins. The large auricle communicated by a small opening with another auricle, about the size of a small horse-bean, into which entered the two *venæ cavæ*, each not above two lines in diameter. This small auricle communicated with a cavity of the size of a swan-shot, in a fatty muscular mass upon the side of the large ventricle, constituting with it the whole ventricular mass, and evidently being the representative of the right ventricle. The right ventricle and the right auricle were separated from each other by small cobweb-like membranes, representing the ventricular valve.

The circulation of, in all other respects, an apparently well developed child, was thus reduced to that of a reptile of the lowest order, very nearly resembling that of a frog. The very small size of the *venæ cavæ* would lead to the supposition, that the circulation of the blood enabling a child to live in the air for five days with so slight derangement for two days at least, could not be carried on with the adequate return of blood from the system which such veins would indicate, and that one of the three orifices by which the blood returned into the large auricle was that of a systemic vein. The auricle is of much greater capacity than that of the united auricles of a child of that age ought to be. It cannot even be conceived that extra-uterine life could continue with such an inadequate return of venous blood, as is indicated by the small proportion of the two *venæ cavæ* to the pulmonic systemic artery.—Dr. Carson *in the Report of the Liverpool Pathological Society. Dublin Journ.*, for Sept., 1844.

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4. *Upon the minute structure of the Liver.*—Unlike that of the salivary, the pancreas, mammary, and other glandular organs in which the terminal subdivisions of the excretory ducts can be readily traced as ending in free cœcal extremities, the structure of the liver in man, and, to a greater or less extent, throughout all the vertebrata, is so compact and dense as to offer the greatest difficulties in its investigation, more especially as regards the real arrangement of its ultimate secerning portion, where even the elaborate researches of Mr. Kiernan leave much doubt and uncertainty upon the mind. It is with pleasure, therefore, that, in search of further information, we would direct the attention of our readers to two papers that have recently appeared in Müller's Archives by Prof. Weber and Dr. Krukenberg, upon the minute anatomy of the liver, and in which the authors have directed their attention more particularly to the point in question, namely, the mode of termination of the hepatic ducts. According to them, the latter, so far from forming distinct lobules, anastomose freely with each other to constitute a plexus, within the areolæ of which the ramifications of the arteries and vena portæ are received, or *vice versâ* that within a terminal plexus formed by these vessels the minute radicles of the biliary ducts are intercalated, so that in a scheme given by Dr. Krukenberg of the appearance of a portion of injected liver under the microscope, these different systems of organs are seen passing the one through the spaces left by the other in a manner very similar to the warp and woof threads of a woven piece of fabric.

"The smallest biliary ducts," observes Prof. Weber, "are of much narrower calibre than in other glands. They do not terminate by cœcal extremities, and thus form the bases of separate lobes and lobules in the substance of the liver, but anastomose in such a complex manner with each other as to form a dense net-work of canals similar to that of the efferent capillaries, and, like it, continuous throughout, without being interrupted by fissures and septa of cellular tissue dividing it into lobules, extends throughout the whole viscus. If any doubt remains of the truth of the assertion, as based upon the ordinary processes of investigation, we have only to examine compressed sections of the liver of the frog under a magnifying power of 30, 50, or 100 diameters, to see most distinctly, without any further preparation, the above arrangement of parts. Here the plexus formed by the delicate biliary ducts is indicated clearly by its yellow color, and that of the capillary vessels filling up their intervals by the reddish hue derived from the blood contained within them. The great difficulty which arose in all the injections hitherto made of the liver, was to tell whether the net-work rendered apparent by these means upon its surface really belonged to the biliary ducts, or was merely the capillary vessels filled by extravasation. To remove this doubt, Dr. Krukenberg filled the hepatic ducts and vessels upon one and the same liver with differently colored masses, and then carefully examined the superficies as well as thin dried sections beneath the microscope. Upon the surface of such an injected liver, he says, "there appeared, within many of the areolæ of the capillary plexus (filled with red), a yellow spot, indicating where the mass of that color had penetrated the biliary canals. In other situations, a yellow streak was seen to pass out of one capillary areola to enter into another immediately adjoining, or else removed to some distance. In others, the yellow canals issuing from four adjacent vascular areolæ anastomosed so as to form a yellow ring, in the centre of which a red cross was visible, formed by the union of four capillary vessels. Again, I saw a distinct plexus given off, the one red, the other yellow, from the minute ramifications of the vessels and ducts, where they lay parallel to each other. Finally, upon making sections of the same liver, red plexuses bounded by yellow, and yellow plexuses by red areolæ, were numerous, distinctly visible, and abruptly defined. Whatever be the degree or extent of anastomosis of the capillary vessels, I am at all events convinced that I have truly injected the finest hepatic canals, and that they interlace with the blood-vessels in the manner just described." So far as the fact of a plexus being formed by the ultimate ramifications of the ducts is concerned, it will be observed that both authors already cited agree with the descriptions given by Mr. Kiernan; they dissent, however, from the opinion of the latter, that this, which they regard along with him as constituting the true ultimate secerning substance of the gland, is parcelled out into lobules by septa formed from prolongations of Glisson's capsule; and still more decidedly do they disagree with Professor Müller, who, basing his views principally upon the progress of development of the liver in the frog and common fowl, states that the last biliary ramuscules end as cœca, appended to the ducts in a racemiform fashion; and in a series of observations in the same number of his journal, containing strictures upon the researches of Weber and Krukenberg, insists further upon this as the true arrangement, by an appeal to the condition of the liver in the Polar bear, after maceration, and its distinctly lobular structure in a great number of other vertebrata. For our own part, we are strongly in favor of the evidence afforded by the facts of comparative anatomy, and the study of the gradual development of glands, than of that dependent upon injection alone, as the most certain method of arriving at the truth. Now that the beautiful investigations of Mr. Bowman upon the minute anatomy of the kidney, the next most complex glandular organ to the liver, have revealed to us the real structure of its Malpighian bodies, and shown that they consist essentially of small masses of vessels contained within the dilated cœcal extremities of the uriniferous tubes, it is difficult, reasoning from analogy, to conceive that an entirely different arrangement of parts has been introduced in the formation of the liver. We think it highly probable that it will yet come to be determined, that the extreme ends of the ducts of the human liver, like those of the kidney, remain distinct from each other, devoid of any intercommunication; and that they derive the elements of their secretion from plexuses of different vessels, constituted by the artery and portal vein, surrounding, or being received within, their walls.—*Müller's Archiv.*

MEDICAL PATHOLOGY AND PRACTICAL MEDICINE.

5. *A speedy way of Raising a Blister.*—Take a watch glass of the size of the proposed blister, drop into it from eight to ten drops of the liquor ammoniæ. Have ready a piece of fine linen rather smaller than the watch glass; lay it neatly into the hollow of the glass, and immediately apply this to the skin freed from hair. In a very short time, sometimes in from thirty to forty seconds, a red circle appears round the glass, and the blister is formed.—Darcq., in *Gazetta Med. di Milano*, quoted by *London Med. Gazette.*

6. *On the Pathology of Morbus Brightii.*—Dr. G. Owen Reese, in the course of some observations upon the state of the blood in this disease, was attracted by the fact of the extreme tenuity of this fluid in certain stages of this affection. He regards "that condition as constituting the true cause of the deficient proportion of hæmatosine observed at later periods, and which acted by interrupting those endosmotic changes occurring between the contents of the corpuscle and the chyle, when each fluid possesses its ordinary specific gravity. Further experience has tended to confirm this pathological view, and I am anxious now to allude to certain other forms of disease in which a deficiency of hæmatosine is the leading characteristic, and consider how far such morbid states may be regarded as identical albuminuria in their humoral relations. The increased quantity of water circulating in earlier stages of the morbus Brightii is no doubt

caused by the discharge of albumen with the urine taking place as a constant symptom. Thus the liquor sanguinis is deprived of one of its most important constituents, and the watery condition induced will go on to the production of that secondary state in which the absence of hæmatosine from the blood becomes the leading feature of the disease. This change from the one state to the other is well shown by the following analysis made upon blood drawn from patients suffering under the morbus Brightii: the first at an early, the second at an advanced stage of the disorder.

	1.	2.	*Health.*
Water	805·71	853·11	792·20
Solid matters of serum . .	85·56	81·28	87·85
Fibrin and corpuscles . .	108·73	65·61	119·95

"The decrease in the proportion of hæmatosine observed in persons who have lost large quantities of blood, and in anæmia from other causes, may, I am inclined to believe, be correctly explained on the same principle that applies to the above cases, and it is not difficult to understand how the antecedent condition, consisting in a loss of proper density on the part of the liquor sanguinis, is brought about.

"When large quantities of blood have been lost, the remainder of the circulating fluid absorbs water in order to maintain its bulk. The dry skin and extreme thirst observed in patients who have suffered from large losses of blood are doubtless indications of the necessity of supplying a sufficient bulk of fluid to afford the heart a stimulus to contraction; but when these cases have passed through the first dangers of hemorrhage, the anæmia which follows cannot be regarded merely as the effect of dilution of the blood, for a cause exists in that fluid which interferes with the development of the corpuscle, and keeps up the anæmiated condition.

"My friend Dr. Lever, of Guy's Hospital, informs me that in cases of violent flooding he has often observed the thirst abated by frequent sponging the body with water; and there can be little doubt of the advantage of this mode of treatment, not only as a means of allaying thirst, but of saving life; for an increase in the degree of rapidity with which water is absorbed during violent hemorrhages may make that difference in the condition of the heart which turns the scale of life in favor of the patient; nor do we possess a better means of introducing large quantities of fluid into the blood than by applying it to the extensive surface of the skin; and the stomach, as is frequently the case, may be too irritable to receive liquids. The after-treatment of these cases, as indicated by theory, would consist in the exhibition of saline purgatives and meat diet, with the use of ferruginous tonic medicines to assist in the formation of chyle rich in an element necessary to the formation of hæmatosine.

"The efficacy of this plan of treatment has been long appreciated by practitioners, and its adoption is one among the many instances our profession affords of the discovery of a practical truth as the result of lengthened and tedious experience, and without the assistance to be derived from physiology and pathology, which sciences, had they participated in the elucidation, would have enhanced the value of the fact, by enabling us to deduce general principles of treatment from the knowledge obtained, and have suggested important analogies not otherwise presentable to the imagination.

"The various forms of anæmia which attract the attention of the practitioner, in many of which no very obvious cause for pallor can be ascertained, will frequently admit of explanation, if the principles I have noticed be kept in mind, and inquiry made into all the possible causes which can produce a decrease in the specific gravity of the liquor sanguinis. It would appear that this decrease admits of being brought about in one of three possible ways: 1st, by removal of one or more solid constituents from the blood; 2dly, by inactivity on the part of the exhalents, the skin, lungs, and kidney, which will so derange the balance between the ingested and exhaled fluids as to leave an excess of water in the blood; and 3dly, by an increase of the absorbent action of the skin.

"The first of these conditions is present in the morbus Brightii, while in cases of anæmia caused by excessive loss of blood, the first and third conditions exist. The latter, however, though tending to produce anæmia, in all probability merely takes place in order to preserve life; and we are not yet in possession of sufficient facts to enable us to decide how far it may exist in any other cases either as an accessory or sole cause of anæmia.

"If we examine the histories of anæmial cases, we frequently discover that large quantities of the solid matters of the blood have escaped from the system in the form of leucorrhœal discharge, when the whole phenomena of the disease are explicable (at least so far as the pallor is concerned) on those principles which apply to the morbus Brightii. In other cases a difficulty exists in detecting any such cause for anæmia, and in these I am inclined to believe in the existence of the second condition above mentioned; and that the changes productive of anæmia have occurred in consequence of the exhalent power of the skin having become impaired.

"These cases are generally characterized by a weak pulse, the skin being peculiarly flaccid, and the surface cool, while large quantities of water pass off by the kidneys. A stimulating diet, ferruginous tonics, tepid baths, and taneous frictions, are here particularly indicated, and rapidly produce their beneficial effects.

"There is another class of anæmial cases, which, though seldom seen, are still sufficiently common to deserve attention; these constitute, in fact, a form of the morbus Brightii, but as they occur in young females slightly advanced beyond the age of puberty, and are accompanied by amenorrhœa, frequently escape detection, and are treated as chlorosis, while a more favorable prospect of recovery is entertained than would be the case were the true nature of the disease known to the practitioner.

"The long continuance of anæmia in young girls who have never suffered loss of blood, and in patients affected with morbus Brightii, who have never passed red corpuscles in quantity with their urine, are facts which, when considered in connection with the analysis of the blood in such cases, sufficiently show that the disease may be produced by an imperfection in those processes which are necessary to the genesis of the blood corpuscles. That this imperfection consists in a loss of the normal relation between the specific gravities of the liquor sanguinis and chyle, is but a necessary deduction from what we know concerning the chemical and physical conditions of these two fluids; for it is positively certain that the chyle, being of less specific gravity than the liquor sanguinis, must, as it passes into the venous system, act upon the red corpuscles so as to enter them freely; and it is equally certain that the nearer the liquor sanguinis approaches to the chyle in specific gravity, the greater will be the difficulty in supplying this ferruginous ingredient for the production of red coloring matter within the corpuscles. This being admitted, we must not forget that the anæmia caused by the positive abstraction of blood in large quantities, the bulk of which is supplied by an absorption of water, is a diseased state greatly aggravated by the difficulty which must be experienced in the reproduction of red coloring matter, owing to the approach of chyle and liquor sanguinis to the same specific gravity; and our remedies should be chosen, as in other cases of anæmia, with this view. The water should be removed by purging, nutritious diet enjoined, and iron freely administered.

"There is a mechanical condition influencing the degree of pallor, of which I cannot omit notice, as it forms an important element in the production of anæmia. It consists in a change in the form of the corpuscles, producing a thickening of their edges as seen under the microscope, and exactly resembling a state always to be produced artificially by the addition of dilute saline solutions to the blood after removal from the body. This I have frequently observed in the blood of anæmiated girls, and it is doubtless caused by entrance of the too dilute liquor sanguinis into the globule at the commencement of the degeneration, rendering the form of the corpuscles such as greatly to interfere with their circulation through their capillaries, and thus contributing to the production of the pallor. As the disease advances, the corpuscles, however, are frequently observed pale and flaccid, the balance having been effected between the contents of the corpuscle and the liquor in which they float. In this stage, however, if the skin fail to discharge its function, or if blood be lost from the system, we must expect that the corpuscle will again become thickened, as, under these circumstances, the state of stasis is disturbed, and the liquor sanguinis will again enter freely, owing to its having become further degenerated by the addition of water.

"In conclusion, I venture strongly to recommend the adoption of the same plan of treatment in the early stages of the morbus Brightii that is found efficacious in chlorosis and the anæmia produced by hæmorrhage, viz. chalybeate tonics, saline purgatives, and nutritious diet; being satisfied of the value of the plan, which, though not immediately calculated to remove the congested condition of the kidney known to exist in the complaint, is still of efficacy in preserving the normal state of the blood, and may thus fairly be considered as assisting in recovery. It will be obvious, from what has been stated above, that the removal of nephritic congestion should not be effected by bleeding in any form, inasmuch as it tends to produce the condition of blood which it is desirable to avoid, as a forerunner of the secondary evils of the morbus Brightii. Counter-irritation and dry cupping are the most desirable methods of relieving the kidney."—*Med. Gaz.*

7. *Dr. Cormack on Ipecacuan as a Counter-irritant.*—Dr. Cormack detailed the result of his hospital experience of ipecacuan as a counter-irritant in the form of ointment, as recommended by Dr. Hannay of Glasgow. Dr. C. had tried the ipecacuan in a great many cases, and in the proportion of 10 to 12 of them, it had failed to produce any eruption, even when the powder was in the proportion of half an ounce to an ounce of lard. In a few persons only, with a delicate skin, or who had had recent blisters on the surface experimented on, did he succeed in bringing out an eruption. The eruption was vesicular in three cases which were carefully observed. In the same persons on whose skin the ointment produced no effect, a good crop of pustules was in every instance brought out by one, two, or three frictions with a liniment of equal parts of olive and croton oil. Dr. C. believed that there were many vegetable powders which would be found more active counter-irritants than ipecacuan.

Dr. Handyside and Dr. Douglas Maclagan stated that they had met with no good results from its employment. Their experience corroborated that of Dr. C. —*London and Edinburgh Monthly Journal of Med. Science.*

8. *Caoutchouc as a Remedy for the Tooth-Ache.*—Caoutchouc, becoming very smooth and viscous by the action of fire, has been proposed by Dr. Rolffs, as an excellent remedy for filling hollow teeth, and alleviating the tooth-ache proceeding from that defect. A piece of caoutchouc is to be put on a wire, then melted at the flame of a candle, and pressed, while warm, into the hollow tooth, and the pain will disappear instantly. The cavity of the tooth should first be cleaned out with a piece of cotton. In consequence of the viscosity and adhesiveness of the caoutchouc, the air is completely prevented from coming into contact with the denuded nerve, and thus, the cause of the tooth-ache is destroyed.—*Buchner's Repertorium für Pharmacie.*—(*From the London Medical Times.*)

9. *Greek Leprosy in Sardinia.*—The Sardinian government have lately been led to institute particular inquiries into the prevalence of this formidable disease in their dominions; the result of which is, that about 100 persons have been found laboring under the true leprosy. Dr. Trompeo, the reporter, states that the disease agrees, in its nature and characters, entirely with the Eastern leprosy. He is of opinion that it is contagious, and that it might be got rid of by entirely isolating the diseased.—*Giorn. delle Scienz. Med. di Torino*, Jan., 1844.

10. *Amaurosis cured by Inoculation with the Sulphate of Strychnia.*—The subject was a lady, 27 years of age, of nervous temperament, affected with incomplete amaurosis of the left eye, and commencement of the same disease in the right one. The disease was of three months standing, and of rheumatic origin; after two

months' fruitless efforts, Dr. Verlegh tried inoculation with the sulphate of strychnia in the neighborhood of the orbit. A grain of the salt was dissolved in two drops of water; the first day 12 inoculations were performed, six above the eye in the course of the supra-orbital nerve, six under, and on the side of the nose where the ethmoidal filaments and nasal branch terminate, and whence arise the filaments which go to the iris. There was no effect that day; but next day some slight tremors occurred in the neighborhood of the inoculated spots. After two days' rest the inoculations were repeated, and the number of punctures increased to 18. The patient now became sensible of a slight haziness. After five successive inoculations carried to the length of 30 punctures, she commenced to distinguish objects; after the eighth, vision was completely restored; the contraction of the pupil gradually increased, and the other symptoms diminished after five grains of the sulphate had been used; during the same time inoculations were had recourse to in the neighborhood of the right eye; after the lapse of two months the patient continued perfectly restored; and this the author conceived sufficiently long to warrant him in considering the cure as permanent.—*Gazetta Medica di Milano, April*, 1844, *from the Lond. and Edin. Med. Jour. of Science.*

11. *Clysters of Belladonna against Ileus.*—Instead of remedies introduced into the mouth, which only tend to increase vomiting, Dr. Karl Schwabe recommends the use of clysters of belladonna-root, followed by a warm bath. At least four scruples of belladonna must be administered in each clyster to produce the desired effect. So large a dose, by paralysing, as it were, the muscular fibres of the intestinal tract lying below the strangulated part, removes the spasmodic tension, and allows the upper part of the intestinal canal, in consequence of the removed resistance, to relax, or to push the occluding substance towards the lower end. In the following case real poisoning happened after the administration of the above dose of belladonna:—A strong man, fifty-two years of age, complained, about half an hour after the application of the clyster, of dryness in the throat and difficulty in swallowing. He gnashed his teeth, was convulsed in the upper and lower extremities, and began to be delirious. Pulse full and strong, but little accelerated; look wild and fixed; pupils dilated; face flushed. The author, fearing apoplexy, ordered a venesection to one pound and a half, and clysters of vinegar. Within four hours the above symptoms gradually disappeared, the bowels were relieved (promoted by small doses of castor-oil and coffee), and the patient completely recovered from this complaint.—*Brachmann, in Schmidt's Jahrbücher der Gesammten Medicin.*

12. *The Effects of Antimony on Infants.*—Mr. Wilton, in the "Provincial Medical Journal," gives the details of several cases, in which antimony, exhibited internally to children, caused excessive depression and exhaustion, and in two cases a fatal termination. The principal post-mortem appearance was an exceedingly ex-sanguineous condition of every part of the body. Mr. Wilton observes that antimony is a dangerous remedy for children, and always requires caution and observation in its use. To the truth of this remark we can add our own testimony.—*London Medical Times.*

13. *On the Use of the Alcoholic Lotion in Phthisis Pulmonalis.* By MARSHALL HALL, M. D., F. R. S., &c.—So many persons affected by incipient phthisis, marked by dulness of sound on percussion, and no doubtful pectoriloquy under the clavicle, hemoptysis, and disposition to chills, heats, and early morning perspirations, &c., have been benefited and restored to perfect health by the remedy or remedies which I am about to mention, that I cannot but think that they possess great efficacy.

The first and principal of the remedies is an alcoholic solution, constantly applied by means of six folds of linen over and across the upper lobes of the lungs.

One part of pure alcohol is mixed with three parts of water. It is applied tepid first, and afterwards of the temperature of the atmosphere. It is applied in *small* quantity at a time, every *five* minutes, so that the application may always consist of alcohol and water. (If applied in large quantity and less frequently, the alcohol would evaporate, and water alone would be left, and this would be the source of a feeling of discomfort, instead of the feeling of glow which the alcohol induces.) The application is easily made; a piece of soft linen, of the size of a large sheet of letter paper, being folded in the usual manner, is then folded twice more, in lines parallel with the first, so that the whole consists of six folds. These are stretched, applied across the upper part of the thorax, just below the clavicles, and fastened to the shoulder-straps or other part of the dress, which latter is to be arranged so as to be readily opened and closed. A sponge, the size of a walnut, is then filled with the lotion, and pressed upon the linen along its whole course, the dress being opened for this purpose, and immediately closed.

This operation need not occupy five seconds. It should be repeated, as I have stated, every five minutes. The application should be incessant during the day and all waking hours, the dress being light, or even entirely removed, so as to allow of a free and rapid evaporation. It is suspended during the night. It is by no means my wish to laud this remedy beyond its just value: but I have no hesitation in asserting, that it possesses a power in checking the progress of the deposition and softening of the tubercle in the lungs, beyond any other which I have ever tried. And the number of patients who have recovered from incipient phthisis, and who, after many years, are still living, and in apparent health, induces me to express myself in strong terms in regard to its extreme value.—*Abridged from the Lancet, for April*, 20, 1844, *Lond. and Edin. Jour.*

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14. *The Pulse as a Means of Diagnosis.* By Dr. HAMERSYK of Prague.—In general the number of the arterial pulsations corresponds with the systoles of the heart, but the pulsations and the systoles are not exactly synchronous. But it is important to know that the pulse at the wrist, at the temporal artery, and at the femoral, near Poupart's ligament, are perfectly synchronous, unless from some cause obstructing the regular arrival of the blood at any of these points. As to the frequency of the pulse, it is always proportioned to the severity of diseases, particularly in pneumonia. The author has seen an adult recover whose pulse amounted to 150 in the minute. It has been stated that the pulse is slower in cerebral affections; this, if true, would put us in the way of determining what are the nerves which regulate the movements of the heart. Heien records the case of a man in whom the pulsations of the heart stopped from time to time, during an interval corresponding to four or six pulsations. These stoppages, during which the patient retained his intellectual powers, but could neither speak nor move, at length came on as often as ten or twelve times a-day. On dissection, the medulla oblongata was found pushed to one side, and the great cardiac nerve and the left nervus vagus surrounded with dark-colored knots. The development of the pulse varies with the quantity of blood, its loss by bleedings, evacuations, exudations, &c., &c.; and depends also on diseases of the heart (its orifices and walls), and on diseases of the uterus. At the beginning of inflammations and acute diseases, when the orifices of the heart are normal, the pulse is more or less full, and becomes smaller in the course of the disease. In abundant effusion the pulse is small, because, according to the author, the arteries, receiving a less powerful column of blood, contract the more. Thus, we see the pulse small only in peritonitis, and very acute enteritis. It is not so when the effusion takes place slowly, nor in acute diseases accompanied with great prostration; the degree of fulness retained by the pulse in these last is owing to the loss of contractility in the arteries. In effusions which take place slowly into the pericardium, the pulse becomes as small as it does in those which take place rapidly, which is to be ascribed to the loss of power of the muscles of the heart. A double pulse is observed only in the large arteries and in dangerous diseases. A sonorous pulse is met with in very various affections; it yields a peculiar sound to the ear, and a vibrating sensation to the finger, such as is felt when one touches the chord of an instrument in a state of vibration. The author attaches little importance in the distinction of the pulse into hard, soft, full, contracted, &c.—*Oesterreichische Jahrbücher, quoted in Gazette Médicale de Paris, March*, 1844.

15. *Case of Ephidrosis, the Perspiration having an Alkaline Reaction.*—A man, 45 years of age, often affected with rheumatism, began, in December, to perspire profusely every morning, rheumatic affections being, at the same time, very prevalent. The perspirations gradually increased, and so reduced the patient, that, at the end of January, he was emaciated to a skeleton, and could not raise himself in bed without assistance. The perspiration, which was more profuse at night than during the day, exhibited a peculiar earthy smell; it restored to reddened litmus paper its original blue color, but contained no sugar. With all this, the patient was perfectly free from fever, and only felt a little chill, when kept out of bed, whilst it was being dried; his appetite was very good; thirst slight; urinary excretion increased, rather darker than usual, but neither exhibiting the presence of albumen, nor any precipitates; it was acid when first voided, soon after becoming ammoniacal; bowels regular. The thoracic and abdominal organs being all in a perfectly healthy state, the author considered the disease as idiopathic ephidrosis (having concluded, from the history of the case, that it could not be an attack of irregular intermittent fever). Different remedies were employed, without apparent effect: purgatives and diuretics, bark and quinine, mineral acids, chlorine, internally and in the form of lotion, alum, acetate of lead, &c., till the disease, after the duration of nineteen weeks, as gradually disappeared, as it had been developed. But, even then, the usual strength was so slow in returning, that six months after the entire cessation of the perspirations, the patient could not perform his accustomed work. The foregoing case is so far remarkable, that, at a time when the acid was so decidedly prevalent in some of the secretory products, the perspiration of the man not only did not have an acid reaction, but, on the contrary, colored the reddened litmus-paper blue.—*Dr. Philip in Casper's Wochensehr.*

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16. *Inflammation of the Appendix Cœci Vermiformis*—This disease is not so rare as is generally imagined, although it is frequently mistaken in practice. The following are its symptoms:—*continued* (not remitting), deep, lancinating pains, in the regio iliac. dextra, gradually increasing within 12 or 24 hours, and extending over the abdomen towards the right and inferior part: increased by movement of any sort, by coughing, and by the slightest pressure; also, bilious vomiting, obstinate constipation, dry tongue, covered with a brownish fur, great thirst, quick small pulse, but little urinary excretion. The patient lies mostly on his back. In a short time, great weakness supervenes, which ends in death, from the third to the sixth day. If the disease continue above that period, at the eighth or tenth day, a circumscribed tumor, more or less moveable, is generally observed in the right iliac region, attaining the size of a walnut, or even of an egg, and terminating in fæcal abscess, in consequence of gangrenous perforation of the processus vermiformis. The morbid action of the peritonæum is indicated by the extended inflammation, following the spontaneous opening of the abscess, and the effusion of its contents. This stage is evidenced by the sinking of the tumor, accompanied by inflation of the whole abdomen, anxiety, prostration; pulse small, and scarcely perceptible, but greatly accelerated; extremities cold, &c.; and sometimes there is retention of urine, and fæcal vomiting. The autopsy generally shows; the processus vermiformis, black, gangrenous, perforated and diminished in size; effusion of pus and fæces into the abdominal cavity; the peritonæum covered with an exudation of lymph, thickened, perforated, and sometimes gangrenous; the intestinal convolutions joined together by pseudo-membranes; the psoas, iliacus, and quadratus lumborum muscles, changed in their structure, softened, and blackish. The most frequent *cause* of this disease is, mechanical injury, as that occasioned by fruit-stones, gall-stones, &c., arriving at the appendix of the cœcum, and squeezing themselves into it. Sometimes, the complaint is undoubtedly secondary, proceeding from a primary inflammation of the cœcum, or of the cellular tissue lying behind it and the colon ascendens (*perityphlitis* of Puchelt); perhaps, psoitis might likewise lead to inflammation of the processus vermiformis. A singular fact is, that the cases, hitherto observed, have occurred only in individuals between the ages of 18 and 50, and very rarely in children or old people. According to Grisolle, the male sex is more subject to it

than the female. As to the *diagnosis:* it may be confounded with inflammation of the cœcum (the obstruction is generally, however, more obstinate and constant in the latter); with *perityphlitis* (but this, according to Puchelt, mostly arises after a chill, the pain first appearing in the hepatic region, having an inflammatory, rheumatismal character, and becoming fixed, only at a later period, in the region of the cœcum and colon, from which it seldom extends further). From *peritonitis* and *enteritis*, the disease is distinguished by its position in the right iliac region, by the circumscribed nature of the tumor, &c. *Psoitis* is distinguished by its seat in the lumbar region, by its arising after some external injury, by the flattening of the buttocks, and by the impossibility of turning the thigh outwards. The *prognosis* is generally unfavorable; recovery only taking place when stools ensued before the formation of abscess, attended with decrease of the symptoms. *Treatment:* twelve to twenty leeches; venesection, cautiously applied; emollient cataplasms; clysters of camomile tea; linseed oil and soap; warm baths, &c.: internally—purgatives of sulphate of magnesia, ol. ricin., or infus. sennæ compos., with potass. If these remedies are rejected, Burne recommends: 6 grs. of extr. colocynth. co., 2 grs. of calomel, with 1 gr. of opium, to be given every six hours. If the symptoms do not decrease, it must be carefully ascertained whether a tumor has formed, in which case, a timely incision may still save the patient. If effusion of pus into the peritonæum has already taken place, Stokes, Graves, and Chomel, recommend large doses of opium (one grain every hour); in some cases, the use of morphia, by the endermic method, is said to have been very successful. The author concludes by enumerating several cases.—*Dr. Burger, in Hufeland's Journal.*

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17. *Effect of Electro-magnetism on Paralysis.* By Dr. SHEARMAN, Rotherham.—In a very excellent summary of the proceedings of the Sheffield Medical Society, by Mr. Law, we find the following notice of a case of Dr. Shearman's.

The patient, a lady, was 51 years of age, and had suffered for some months from tic doloureux of the right inferior maxillary nerve. On January 31, 1841, she was suddenly seized with an extraordinary attack of vomiting. She fainted, and had loss of power over the arms when in the upright, but not when in the recumbent posture. On the evening of the 1st of February, she found it impossible to swallow anything, and the sickness subsided. There were no symptoms of inflammatory action. Subsequently she had paralysis of the left side of the face, and of the right arm and leg. The patient became exceedingly feeble, and neither external nor internal stimulants had any effect. Dr. Shearman treated the case as he would have done if it had been one of palsy, succeeding a slight fit of apoplexy. Nothing could be introduced into the stomach except through the œsophagus tube. On the 25th of February, electro-magnetism was applied, with the sanction of Sir A. J. Knight, to the back of the neck and chest in the course of the œsophagus, to the left side of the face, and from the spine in the course of the nerves to the right arm and leg. This was done one hour at least three times a day for a month, and afterwards twice a day. The nutritious and stimulating injections into the stomach were continued until March 9th, when she could swallow so well that the œsophagus tube was unnecessary. Pretty good doses of quinine, and other stimulating tonics, in the way of nourishment, were administered; and great attention was paid to the digestive organs. On the 26th of June she could walk up and down stairs tolerably well. From this time, the electro-magnetism was gradually discontinued. She got quite well, and is so at this moment.

This is clearly a very rare case. While it was going on, Sir A. J. Knight and Dr. Shearman consulted all the authorities within their reach without obtaining any information respecting it. Dr. Shearman referred the case to Dr. Abercrombie, who acknowledged that he was quite at a loss with regard to the state of the spinal cord. There can be no doubt that in this case there was no structural disease. This seemed to be the general opinion of the society. With respect to treatment, the writer doubts whether the electro-magnetism is entitled to the credit of having effected the cure; or whether this should be attributed to the quinine, stimulating tonics, and the great attention which was paid to the digestive organs. Paralysis occasionally terminates favorably quite irrespectively of medical treatment, and the acknowledged obscurity in which the proximate cause, in the case under consideration, was involved, demands especial caution in assigning to each of the various means employed in the treatment, its due share of credit. It is by no means impossible, that the electro-magnetism, instead of having carried off the complaint, retarded the cure; and that this was ultimately accomplished by nature, assisted by the general treatment. Until a series of cases treated with, have been contrasted with a parallel series treated without, electro-magnetism, it would be unphilosophical to pronounce a decided opinion on this principle as a curative agent in paralysis. Although the writer has employed electro-magnetism in a variety of cases, during the last twelve months, yet he has hardly been able to verify a single observation of any one of its numerous and zealous advocates. Dr. Shearman used either the negative or positive pole, as chance directed. Now, Ritter asserts that the former diminishes while the latter augments the powers of life, and J. D. Humphreys, medical galvanist, with Chas. Woodward and others, say that the positive pole exerts a salutary influence, by exhilarating the spirits, and infusing feelings of energy and strength; while the negative excites a sense of exhaustion and irritation. These writers distinctly state that the only effect of the negative pole, if applied to the seat of a disease, would be to aggravate its worst symptoms. How are these opinions to be reconciled with Dr. Shearman's belief, that he had cured his patient by an indiscriminate use of the oxidating and deoxidating electricities?

Dr. Wilkinson, Dr. Hodgkin, Mr. Ware, and Mr. Carpue, ascribe wonderful power to electro-magnetism in diseases affecting respiration, circulation, digestion, and secretion. According to these gentlemen, there is hardly a complaint which it will not either cure or relieve; or an indication in therapeutics which it will not satisfactorily fulfil. The writer can reconcile the discrepancies between the statements of authors and his own experience, only by supposing that the publications on this subject contain many errors. With respect, however, to the case under consideration, it is right to say the society generally agreed with Dr. Shearman, in ascribing the cure to electro-magnetism; and that Dr. Abercrombie speaks rather favorably of this agent.—*Prov. Med. Journal, May* 15, 1844.

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18. *Electricity in Poisoning by Laudanum.*—Mr. Corfe, of the Middlesex Hospital, has related an instance of the good effects of electricity under these circumstances. A man was admitted, having taken an ounce and a half of laudanum on the preceding evening, six hours previously. "In the first instance I ordered the administration of the stomach pump, at which period, to all appearances, he was a lifeless corpse; the pupils were contracted to a pin hole in size; the pulse was intermitting, and not more than 40; the respirations convulsively performed at intervals of half a minute; the face livid, and the extremities bluish and cold. After the stomach had been relieved of its contents, green tea, with ammonia, was injected therein; flagellation with thin splints and wet towels, the cold douche, turpentine stupes and sinapisms to his calves and abdomen, were applied in succession, without the least improvement in his condition. The bladder was relieved of six or eight ounces of light colored urine by the catheter. I then thought of a most powerful remedy, which was attended with extraordinary success; I allude to the electro-magnetic battery, conjointly with electricity, which was set to work upon him soon after four o'clock. The pulse became more steady, firm, and frequent; the respirations more indicative of resuscitation. Our powerful electrical machine was now got into full play before a large fire, and the jar filled, when some brilliant sparks and strong shocks were occasionally passed through his head, spine, thorax, and abdomen."—*Lancet, January* 27, 1844.

The result of this was, that the man opened his eyes, and his mouth too, abusing the operators for a pack of rascals who were "trying specimens" on him. But incomparably the most satisfactory effect was produced by giving him a shock on the tip of his nose. To use a phrase of the ring, he *rallied* wonderfully under this—a hint worth taking.—*Med. Chir. Rev., April,* 1844.

19. *Cure of Incipient Pulmonary Consumption.*—The observations of Simon, Andral, &c., show that in the early stage of tubercular consumption, the blood corpuscles gradually diminish in number; this accounts for the early disturbed state of the digestion. Digestion may either be abnormal, as regards its influence on the blood and its secretions, or as regards the state of the proper organs. In the former case, the diet must be so regulated as to ameliorate the formation of the blood; in the latter, remedies must be applied to cure the diseased organs. Milk, and food prepared from milk, are the fittest forms of nourishment. Eggs are more difficult of digestion, on account of the albumen they contain. Asses' milk is preferable to common milk, on account of its abounding in sugar and extractive substances, and from the small quantity of caseine contained in it (which would be most apt to disturb digestion). Should this small quantity of caseine interfere with digestion, the whey of the milk is to be used, and amylaceous paps, prepared with milk and water, are to be substituted for the caseine. If the digestion is too sluggish to assimilate the milk, muriate, or sulphate, of soda is to be mixed with it (Seltzer of Roisdorf water may be used for that purpose). The *Kesselbrunnen* of Elms might also be used, if its excess of carbonate of soda be not too irritating to the lungs. Besides milk and amylaceous substances, those vegetables may be taken which contain little albumen or starch, but much sugar and oleaginous parts. Animal food, abounding in albumen, easily disturbs digestion; very fibrous food is too exciting; that which is fattish, is better borne; gelatine is injurious. These views explain, why milk, pap, animal fat, linseed oil, yolk of eggs, honey, &c., are recommended as domestic remedies against consumption, and indeed, are sometimes used with great advantage. Frictions with oil, or lard, with baths, &c., are also useful, unless they check the moderate perspiration, which is often of some benefit in the first stage; cod-liver-oil requires a good digestion, but is occasionally advantageous on account of the free acid which it contains. If we consider the quantity of watery, saline, fatty and glutinous substances, which are excreted through the healthy skin, we shall find it quite natural to suppose that the deranged activity of the cutaneous surface must have a great influence on the formation of tubercles. Flannel ought, therefore, to be worn all over the body (to prevent taking cold), and to be changed every two or three days. Excretion of the skin must be promoted, but not by diaphoretics, which would irritate the lungs. Stokes' liniment, consisting of oil of turpentine and acetic acid, operates both on the skin and on the mucous membrane of the bronchi; daphne mezereum, and issues, are likewise recommended. Regular intermittents check the formation of tubercles, whilst their too early suppression promotes tubercular deposition. If tubercles are already formed in the lungs, the circulation must be prevented from being either too rapid or too slow. In both cases, the deposition of tuberculous matter from the blood would be favored: in the former by a too frequent, and in the latter by a too prolonged, contact between the blood and the lungs. Not only bronchitis, pleuritis, and pneumonia, but some other diseases of the chest, promote and occasion tubercles. Great irritability of the heart and lungs sometimes produces tubercular deposition, and ought to be treated with digitalis, prussic acid, &c., or with the vapors generated from a mixture of belladonna and marsh-mallow leaves, laid on hot iron plates. Cold does not produce tubercular disease, but it favors inflammation of the tubercles when formed. Jeffrey's respirator is very useful in securing an uniform warmth of temperature. Great exertion, running, jumping, &c., cause dangerous inflammation of the tubercles. Emetics (sulphate of zinc, and ipecacuanha, according to Hughes) are very useful in the beginning of the disease, and ought to be repeated frequently. If tubercular consumption has been caused by trouble, want, self-indulgence, &c., country air, animal diet, riding, etc., are to be recommended. Also, the cortex chinæ, with sulph. aurat. If copious perspirations are combined with great weakness, and but little cough be present, Graves' remedy is very useful.

℞ Infus. cascar. ℥ vii.
Quin. sulph. gr. ss.
Acid. sulph. dilut. gutt. xv.
Tinct. hyoscyam. ʒ ss.

Two tablespoonfuls every three hours.

Frequent exercise, nourishing diet, a little old wine, but no tea. The remedies hitherto used, to remove tubercular disease, do not seem satisfactory. Iodine is more fit for scrophulous than tubercular consumption; sal-ammoniac increases the sputa without permanent relief; potash excites too frequent coughing. Hæmoptysis is sometimes a favorable effort of nature to discharge the superfluous blood, and ought not to be stopped too suddenly. In fact the treatment must always be in conformity with the peculiar constitution, and the cause of the complaint.—*Nasse in Schmid's Jahrbuch der Gesammten Medicin. Med. Times.*

PATHOLOGICAL, THERAPEUTICAL, AND OPERATIVE SURGERY.

20. *New Method of Operating for Hare-lip.*—It has been recently remarked, but it is not the less just on that account, that the most successful operations for hare-lip constantly leave behind a very ungraceful and inelegant furrow upon the free margin of the lip. M. Malgaigne has lately discovered a method, which, in this respect, appears more advantageous than any other.

He commences the incision at the superior part of the lip, and performs it from above downwards, employing scissors, in the same manner as in the ordinary operation, only when he has arrived as low as possible, without detaching the cut piece, he stops. The same plan is followed on the other side of the labial fissure. There are then two small flaps which are adherent to the lip by a pedicle. After having re-united, by the aid of pins, the two margins of the cleft, in their whole extent, except towards their free border (that is towards the bottom), these flaps are brought from above downwards, and approximated face to face. The operator, then, judging of the length which it will be proper to leave them, in order to prevent the furrow which is afterwards so much to be dreaded in this point, shortens and finishes them as he thinks fit, preserving a piece varying in size according to the extent of the vacuum which he has to fill. Union is afterwards effected by approximating them with one or two interrupted sutures, or with a fine insect-pin. If care is taken to place these uniting agents very near the free margin of the lip, the cicatrices will be scarcely visible.—*Gazette Medicale de Paris, from the Dublin Journal.*

21. *Agglutinative Bandage, with Caoutchouc* (Kemmerer).—A piece of India-rubber is touched with a cautery at a white heat, and it immediately melts into a soft mass. A piece of glass, the width of the cloth, is then used to compress and crush the softened mass, which is forced to spread out between the cloth and itself. As it adheres very strongly to the cloth, and on the contrary very slightly to the vitreous surface, it is always easy to take away the latter, and separate it from the smooth surface of the bandage.—*London Medical Times.*

22. *Employment of Caoutchouc to arrest the Hæmorrhage from Leech-bites* (Berthold).—A piece of caoutchouc is cut about a line thick, and five or six long and wide; one end is placed in the flame of a candle so as to melt its surface; it is then allowed to cool, and gently rubbed on Joseph paper to render its surface smooth, after which it is applied to the bite, which had been previously compressed for a few seconds, and the blood cleared away. The little bit of caoutchouc is next covered with a slip of diachylon plaster, and not removed for several hours. —*Ibid.*

23. *Cauterisations employed to prevent and cure Phlebitis and Purulent Infection* (Bonnet.)—M. Bonnet mentions five cases in which he employed cauterisation with the red hot iron to prevent and cure phlebitis, all of which terminated

successfully. He also narrates two cases of purulent infection cured by cauterising the wound with the red hot iron, or, what is better still, with the paste of the chloruret of zinc (see second edition of the "Formulaire," p. 321). The results are as should attract the attention of surgeons.—*Ibid.*

24. *On a means of arresting Nasal Hæmorrhage* (Negrier).—This plan has already been made known in a preceding *Annuaire.* It consists in raising one or both arms at once, at the same time closing by lateral pressure the nostril or nostrils whence the blood issues. M. Negries is convinced that lifting up the arms diminishes the ascending motion of the blood to the head. He has applied his plan of treatment to cases of intense headache, accompanied with stupor and cerebral congestion.—*Ibid.*

25. *Extirpation of the Spleen.*—M. Berthet has published the details of a curious case of extirpation of the spleen in the human subject. An individual in a quarrel was stabbed with a knife in the left side. The author called in eight days after, recognized a considerable tumor formed by the spleen, which exhaled a strong odor of putrefaction. He cut it out, and after a few methodical dressings the patient got well, and lived thirteen years and a half. His digestion was generally well performed, a circumstance which induces the belief that the spleen is an organ not more essential to life in man than in the animals from which it has been removed by experimental physiologists. At the end of this time, he died of pneumonia. At a *post mortem* examination, a very small portion of the spleen was found, no bigger than a filbert, adhering to the external parietes of the stomach.—*From the London Times.*

26. *Treatment of Cartilaginous Bodies in Joints.*—On this subject, Mr. Liston, in his lectures on the diseases of the joints, says, as regards the management of cartilaginous bodies in joints, it is often absolutely necessary to free the patient from the annoyance they occasion. After they become loose, they are apt, from time to time, to slip betwixt the bones, to cause great pain, and seriously to impede progression. They do occasionally form a bed for themselves, and cause little or no uneasiness after a while; but this is the exception. It was the custom years ago to remove these bodies by incision, and this was contrived in such a way that the opening through the skin did not correspond with that in the capsule. The skin was drawn aside, opened, and the body cut open. After its escape, the integument being let loose, resumed its place, and was then put carefully together. Union often took place, and if the joint was kept quiet, the patient recovered without further risk. But, again, if the wound did not unite, and suppuration was established in its track, inflammation of the joint, and disorganization of the tissues composing it, not unfrequently happened. The limb was thus put in jeopardy, and sometimes also the patient's life. Another and improved mode of proceeding was proposed some years ago by Dr. Goyraud of Aix, and at the same period by Mr. Syme of Edinburgh. This plan I have pursued in several cases with excellent success. It consists in subcutaneous division of the capsule of the joint, and the lodgment of the cartilaginous body in the cellular tissue. The proceeding is not unattended with difficulty, and it is one which a person not accustomed to undertake operative procedures will be exceedingly apt to fail in. The fixing of the mass is often not an easy matter. It may, moreover, escape into the joint during the incisions. The position of the cartilage being secured as well as possible, the small instrument—the needle-like knife—is introduced at a distance from it; the capsule being then cut to the requisite extent, the body is thrust or pulled out and lodged in the cellular tissue in a space previously prepared for it. There it will generally remain without causing the slightest annoyance. In a case which was lately under my care, either five or six of the cartilaginous masses were thus removed from the joint as they became loose and troublesome. Two of them were ultimately removed by incision of the skin, one necessarily on account of diffuse infiltration and formation of matter. The others now lie under the skin comfortably enough.

Lancet, Dec. 2, 1843.

27. *Amputation.*—Dr. Bullen gives the result of his experience with respect to amputations. The cases from which he draws his conclusions, are 58 in number; of these, 29 were amputated below the knee, 26 by the circular, and 3 by the flap operation; two cases terminated fatally after the circular operation, and one after the flap, being a proportion of one in thirteen cases in the former, and one in three in the latter. Of the operation above the knee, thirteen were circular, of which five died, and six flap, of which one died. Of the arm, there were three circular, and no flap operations: all recovered: of the fore-arm, five circular, and one flap; all recovered: and of the shoulder-joint, one flap; which also recovered. Dr. Bullen prefers the circular operation below the knee in primary cases, and where the integuments are vascular and healthy; but when the subject is feeble and emaciated, and the circulation languid, he thinks operating with the posterior flap presents decided advantages. The flap operation does not appear very applicable above the knee: the arteries are cut obliquely, and, without great care, may be productive of secondary hæmorrhage, and the bone is apt to protrude at the external angle of the wound, even after the lapse of several days, and after considerable union has taken place. The circular operation in amputation, above the elbow and below the lower third (this locality for operating is not clearly defined), seems preferable to Dr. Bullen. The superficial position of the brachial artery and nerve militates against the feasibility of the flap operation. If the operation be needed in the upper third of the arm, Dr. Bullen advises disarticulation at the shoulder-joint in lieu thereof, on account of the exceeding difficulty with which the artery is compressed, and also because there is a possibility that the extremity of the bone may be drawn by the spasmodic action of its muscles in such a way as to compress the axillary plexus. An example of this is recorded by Dr. Bullen, in which case the pain was so severe as to cause the patient to solicit the removal of the bone. It was relieved by padding and bandaging, by which application the bone was kept stationary. Amputation at the shoulder-joint, Dr. Bullen regards as a safe and easy operation. In injuries of the hand, it is important to preserve as much of the member as possible. Much of the success of modern operations is due to the use of small ligatures, in securing the blood-vessels, and the very simple manner in which the wounds are dressed. This improvement in surgery Dr. Bullen attributes to his father, who had recourse to it in an operation he performed in 1800, although it is claimed by Dr. Hennen and Mr. Cooper, for Mr. Veitch, a naval surgeon. In those cases where amputation has been performed upon old subjects, in whom the lower extremity has been for a long time the seat of chronic inflammation, the veins of the leg are sometimes found enormously enlarged and varicose, and the arteries few, and much diminished in size. When the limb is removed, the venous hæmorrhage is profuse, and difficult to check. The tourniquet, by causing venous congestion, increases the flowing of blood, and even the compression of a bandage brings on a recurrence of venous bleeding for hours after the operation. On carefully examining the condition of the limb, the muscles are found to be purple and soft, and do not retract, and the integuments are flabby, and inclined to a bluish color. There is a manifest atony of the parts, a deficiency of the vital energy which is requisite to set up and carry on the reparative action, by means of which a sound union can be effected. From the moment of operation, the torpid and relaxed state of the blood-vessels demands stimulation. The first object is to arrest the hæmorrhage; for that purpose the tourniquet, and whatever may cause pressure on the limb, should be immediately removed, the thigh bent upon the pelvis, so that the stump may be thrown up, and kept in a perpendicular position, and a stream of cold water should be poured from a height over the face of the stump. These means generally check the more profuse discharge of blood, but a venous oozing continues, which is increased by closing up the wound, and putting on a bandage. Should they fail, however, dossils of lint, dipped in a hot saturated solution of alum, applied to the bleeding surface, and leaving the limb exposed in a current of cool air, will, generally, succeed. It is useless to attempt to obtain union by the first intention in cases of this description; for if, after some hours, when the danger of hæmorrhage has ceased, the edges of the wound are brought together, and the usual dressing applied, it gene-

rally happens that at the end of three or four days the stump becomes gangrenous. Gangrene following amputation in old and enfeebled constitutions is generally fatal, and we should, therefore, endeavor to avert it by the immediate use of proper local stimulants, and by sustaining the constitutional powers with an invigorating course of treatment. Pressing the surface of the stump with pledgets of lint, dipped in warm elemi ointment and turpentine, soon excites healthy suppuration, and an abundant growth of florid granulations, and, at the same time, the steady use of opium, carbonate of ammonia, wine, and nutritious broths, must be persisted in.—*Lond. Med. Times.*

OBSTETRICS AND DISEASES OF FEMALES.

28. *Singular Case of Pregnancy.*—A peasant girl, aged 15, after a violent effort, found a pain in the loins, which always increased after fatigue. Three years afterwards she perceived one day a round body, which projected from the labia pudendi, but repose and the horizontal position easily effected its reduction. She mentioned it to no one. She was married at 20, and became pregnant two years afterwards. When she had reached the seventh month she felt great pain on account of the pressure which the displaced uterus exercised on the neighboring parts. The term of pregnancy having arrived, and the pains commencing, an ignorant midwife kept her for four days without employing any means for terminating her labor. M. Perfetti being at last called in, and seeing the uterus hanging out between the thighs, dilated the cervix uteri by means of two incisions of about sixteen lines long, one in the anterior lip, the other in the posterior. The accouchement and expulsion of the placenta were then accomplished without difficulty. When the womb was emptied it was reduced. Then, inflammatory symptoms having disappeared under proper treatment, an elastic gum pessary was placed permanently in the vagina. For the last ten months she had no return of the prolapsus.—*Braithwaite's Ret., from Bulletin delle Scienze Midiche, and Gaz. Med.*

29. *Case of Bi-Partite Vagina; with Spontaneous Rupture of the Septum and Natural Delivery.* By Dr. Vinchon.—In August, 1842, I was called by a midwife to examine the genital organs of a primipara, who had been in labor from one evening to the next. The head, which was in the first position, was far down in the pelvis; and on a cursory examination, everything gave promise of a speedy and favorable issue; but in carefully examining the vagina, a thick septum was detected, stretching vertically between the recto-vaginal partition, and the urethro-vaginal wall, beginning on a level with the posterior commissure of the urinary meatus, and terminating about two inches beneath it. The vagina was thus divided into a right and left canal. The mouth of the womb was quite free, because, at the end of the septum, the vagina was single. The anormal condition just described gave rise to no inconvenience in sexual intercourse, as the penis could be introduced indiscriminately into one or other canal. The finger could be put in at one opening, carried round the septum, and brought out at the other.

As labor was advancing slowly, and the septum could at any time be prevented from impeding delivery by snipping it across with scissors, I satisfied myself by administering ergot of rye, and watching to see what nature would do. The head was neither directed to one side nor the other of the septum, which by the force of the uterine contractions, was made to appear like a band across the head, in thickness similar to the umbilical cord. As the expulsive force increased, the band became thinner: from the absence of blood, and the effects of tension, it was rendered white like a ligament. Our intention now was to destroy this obstacle by cutting it through; but nature was more alert. All at once the membrane snapped across towards the anterior commissure of the vulva, yielding a noise resembling the slight crack of a whip, whereupon the head immediately came forth, and a healthy child was soon born. The portion of membrane attached to the posterior commissure was cut off with scissors.—*L'Experience, 11th April*, 1844.

30. STATISTICS OF MIDWIFERY.

Dr. F. H. **Ramsbotham** has lately published in the *Medical Gazette* a series of Reports of the Cases delivered in the Eastern district of the Royal Maternity Charity under his superintendence. We present our readers with the most interesting portions of these Reports, in a tabular form :—

				Presentation of the Twin Cases.						Sexes of Twin Cases.			Sex, Presentation, Complications, &c.																		
Year.	Number of Cases.	Twin Births.	Proportion of ditto.	Both Heads.	Head and Breech, or Inferior Extremities.	Both Breech, or Inferior Extremities.	Breech and Shoulder.	Head and Shoulder.	One with Head, the other transversely.	Both Males.	Both Females.	Different Sexes.	Males.	Females.	Some part of Head.	Of Face.	Breech, or Inferior Extremities.	Transverse Presentation.	Children born alive.	Still-born Children.	Implanted Placenta over Os Uteri.	Flooding before Delivery; no Implantation of Placenta.	Flooding after Delivery.	Premature Delivery induced.	Rupture of Uterus.	Died from Puerperal Causes within a Month.	Puerperal Convulsions.	Delivered by Craniotomy.	Delivered by Forceps.	Placenta retained by Atony, or Irregular Contraction.	Complicated with Longitudinal Laceration
1833	2619	22	1 in 119	6	15	1	—	—	—	9	6	7	1372	1269	2437	12	64	4	2556	85	2	5	9	3	—	16	5	3	—	18	—
1834	2447	26	1 in 94	13	9	1	1	—	2	7	8	11	1285	1188	2408	17	57	8	2408	79	1	5	6	2	—	10	2	—	4	10	—
1835	2311	16	1 in 144½	8	4	3	1	—	—	3	6	7	1229	1098	2137	8	57	7	2211	86	3	7	5	1	—	7	4	1	3	8	—
1836	2268	22	1 in 103	4	15	2	—	1	—	6	9	7	1150	1142	2215	8	73	4	2202	90	8	3	4	2	—	8	1	—	2	8	—
1837	2140	26	1 in 82⅓	12	11	1	2	—	—	7	8	11	1085	1081	2113	10	40	13	2079	87	3	10	1	1	1	13	3	2	3	16	—
1838	2136	25	1 in 85½	11	9	5	—	—	—	5	8	12	1115	1046	2087	7	68	6	2076	85	1	6	4	1	2	9	—	—	3	11	—
1839	2079	18	1 in 115½	9	6	1	—	2	—	4	9	5	1082	1015	2014	—	48	5	2012	85	5	7	—	—	—	9	1	2	3	14	—
1840	2173	27	1 in 80½	11	14	2	—	—	—	11	7	9	1144	1056	2131	9	60	9	2120	80	10	10	—	—	—	8	1	4	6	9	—
1841	2167	27	1 in 80¼	—	8	1	—	—	—	13	10	4	1124	1070	2143	—	44	7	2107	87	1	10	—	1	1	6	—	5	—	16	—
1842	2090	20	1 in 104½	10	8	2	—	—	—	7	2	11	1076	1034	2068	—	40	2	2041	69	4	11	3	1	1	11	1	3	1	9	1
1843	2002	23	1 in 87	15	6	1	1	—	—	10	6	7	1037	988	1977	8	42	6	1953	72	1	6	8	—	1	11	—	4	7	7	—

31. *Uterine Diseases.—Mechanical Dilatation of the Cavity of the Os and Cervix of the Uterus, as a means of Diagnosis and Treatment, in some affections of that organ.*—Professor Simpson first showed the difficulty which exists in ascertaining some of the morbid conditions of the lining membrane of the cervix and cavity, in consequence of the small size of the normal opening into the organ. He pointed out that this opening may, by the use of a succession of *sponge-tents*, be enlarged to such a degree as to overcome, in a great measure, this difficulty. The kind of sponge-tent which Dr. S. has used, is made in the manner of that described in most old works of General Surgery. The pieces are pyramidal, of various sizes, and have a perforation in their base, to allow of their being temporarily fixed upon a curved wire or bougie, for their ready introduction into the os uteri. The bougie is withdrawn as soon as the sponge is lodged, and in a few hours the latter expands immensely in size. Previous to its introduction, a string is attached to the tent to allow of its easy withdrawal. Under the expanding power of the tent, the cavity of the os and cervix uteri may be dilated, and without any suffering to the patient, to such an extent, as to allow the finger to pass a sufficient distance for the purpose of ascertaining various points of diagnosis which could not otherwise be arrived at. Dr. Simpson stated that he had employed the same means to facilitate some kinds of remedial and operative interference in this part of the body, such as the removal of those small vesicular polypi that are so frequently clustered upon the interior of the cervix.

In speaking of dilatation of the os and cervix uteri as a means of cure, Dr. Simpson pointed out the results of this practice in the hands of the late Dr. Mackintosh in the cure of dysmenorrhœa and sterility, connected with normal and inflammatory strictures of the os uteri. His own results had not been so successful as those of Dr. Mackintosh; but he had now seen a considerable number of severe cases in which dysmenorrhœa that had previously resisted all other kinds of treatment, had at once yielded to the mechanical dilatation. Dr. Simpson had found the stricture occasionally at the os internum, or opening between the cavities of the cervix and body, and not at the os tincæ. Dr. Mackintosh had effected the dilatation with long straight bougies of different sizes. Dr. Simpson had found them more easily used when slightly curved. He also showed other instruments, one of them like the dilator for the female urethra, which he had occasionally employed for this purpose. These instruments were all of them intended to be left in the os uteri for only a short period, and their introduction repeated from time to time, as in the usual treatment of stricture of the urethra in the male. Latterly Dr. Simpson had in his practice thrown aside these, and used another form of permanent bougie for this purpose, and he considered them to be greatly preferable. These permanent bougies were made of Berlin silver, the stem or part included in the uterine cavity was two inches and a quarter in length, the lower ends, which rested in the vagina, were bulbed and enlarged to the size of a large almond, and were perforated below for the purpose of being placed on a temporary handle, used in the introduction. One of the instruments was left in the uterine cavity for three or four days, and by that time the part was so much relaxed, that another of a much larger size could, in general, be easily introduced. They could easily be borne without the slightest inconvenience, and, indeed, without the patient being aware of their presence. Dr. Simpson pointed out that this permanent form of bougie altogether gave much less pain to the patient and less trouble to the practitioner; was more certain and expeditious in its effects, and was especially useful when the surrounding tissues of the lips and cervix were in any degree indurated. Obstructed dysmenorrhœa sometimes depends on other circumstances than ordinary strictures of the os. It is sometimes seen in connection with the conical hypertrophy and elongation of the cervix. Dr. Simpson has found it in several instances accompanied with much morbid thickening of the anterior lip of the os uteri, the posterior lip being thin and healthy, and the os stretched out between them of an irregular crescentic shape. In such, and other instances, Dr. Simpson had divided the os uteri on each side to the extent of a few lines with a very narrow knife or "*lithotome cachée*," and subsequently kept the part temporarily dilated with the sponge-tent. He quoted cases of the perfect success of this simple and safe measure; it placed the parts in something of the same condition as that which they present subsequent to miscarriage; and this latter occurrence is known in general to leave without dysmenorrhœa those who have previously been laboring under that affection, whilst at the same time, women after aborting usually soon again become pregnant, there being no such great lacteal determinations to the mammæ as occur after parturition at the full period, and which seem then usually to interfere with the early repetition of conception.

Lastly, Dr. Simpson offered some observations on the introduction of the sponge tent, into the os of the pregnant uterus, in certain conditions in connection with abortion, and as a means of inducing premature labor. When abortion was inevitable, and the hæmorrhage great, a small expanding sponge tent passed into the os uteri, was more effectual than a large vaginal plug. It at the same time opened up the os uteri, so as to allow of the more easy escape of the contents, whilst uterine contractions were, in most instances, ultimately induced by its presence. For the same reasons it was often a valuable means of both opening up the os uteri, and exciting the necessary degree of uterine action in those occasionally perplexing cases where, in abortion, the embryo escapes, but the secundines are long retained. Dr. S. had employed the same simple means in inducing premature labor, and spoke of the advantages of it in comparison with the various other measures that had been proposed for that object. He found that the tent, when made and introduced in the mode already stated, required no vaginal plug, or other means to hold it *in situ*. By its use the first stage of labor, or the dilatation of the os uteri, could, in a great degree, be advanced, before the labor itself actually began.—*Lon. and Edin. Monthly Journal.*

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32. *Effects of Ergot of Rye on the Fœtus in Utero.* By T. E. Beatty, M.D., M.R.I.A., Fellow of and Professor of Midwifery to the Royal College of Surgeons in Ireland, &c., &c., &c.—Dr. Beatty thinks, with many other respectable practitioners, that ergot of rye produces a noxious influence on the nervous system of the infant during parturition; and to this effect may be attributed its fatal tendency in many cases, independent of the asphyxia which is evidently produced in other cases by the continued and uninterrupted action of the womb for a certain length of time. Dr. Beatty relates a number of cases, and concludes that in most cases, if the labor be accomplished within *two hours* after the exhibition of the medicine, the bad effects on the child will not be seen; on the contrary, when the time exceeds two hours, the danger to the child will be great. "The effects are certain spasmodic conditions of the muscles of the whole body, alternating with relaxation or palsy, and accompanied by evidences of derangement of the functions of the cerebro-spinal system," produced, according to Dr. Beatty's opinion, by "a direct poisonous effect on the infant before delivery." After relating a number of cases to elucidate his opinions, Dr. Beatty says—

In the cases just recorded, the condition of the infants was very unlike that of still-born children delivered under ordinary circumstances, and when no ergot had been administered to the mother. *The distinguishing characteristics are, the general lividity of the surface, the universal rigidity of the muscular system, producing the stiffened limbs and clenched hands in those infants in whom life was extinguished; and the remarkable kind of alternating spasm and palsy which supervened in those that were resuscitated.* The nearest approach to this state in new-born children, and that which most resembles it, is the condition in which children are born dead, with symptoms of congestion of the cerebral vessels, in whom, it is true, we find the countenance suffused and livid, but the peculiar affection of the muscular and nervous system is wanting. Children presenting this appearance of congestion are usually born after difficult labor; but in the instances above detailed this was not the case, some of them were tedious, but none of them difficult.

That the *fœtus in utero* is capable of being influenced by the circulating fluids of the mother, is proved by the well-known fact, of the communications of syphilis, small-pox, &c., to the unborn child; and that substances taken into the stomach of the mother can affect the infant, is shown by the experiments of

Majendie, who found in the fœtus of animals the odor of camphor, and the color of madder, with which he had fed the mother. It is still further established by the case reported by M. D'Outrepont, of a fœtus poisoned by opium taken by the mother.

Admitting this point to be established, it remains to be seen, whether the effects described above, and imputed to the direct agency of the ergot of rye, bear any resemblance to the effects produced by the introduction of this drug into the circulation. Upon this point we have very satisfactory information in the elaborate essay of Mr. Wright, already alluded to. Before proceeding to recount the results of his experiments, he takes notice of some of the epidemics of *spasmodic ergotism*, caused by eating bread made of rye containing a large portion of ergot, which visited different parts of the Continent during the last century. This disease almost devastated Freybourg, and overran many of the Cantons of Lusatia, Saxony, and Sweden. According to Videlius, the patients were attacked with spasms and convulsions, accompanied with violent pains, which were said to equal those of luxation, and to be similar in their type. In some instances the patients became lethargic, and when recovering from such state gave respectively signs of stupidity, intoxication, and extreme lassitude, after which the fit subsided for a time. But there generally remained vertigo, *tinnitus aurium*, *nebulæ oculorum*, rigidity of the members and excessive feebleness.

The effects of this medicine, when introduced into the circulation, may be learnt from the experiment of Mr. Wright.

It is plain that the longer the time that elapses after the medicine has been taken into the stomach of the mother, the more certainly will its noxious principles be absorbed and mixed with her blood, the more certainly also will these principles be transmitted to the fœtus by the constantly arriving current of blood through the umbilical vein, and the more likely will the fœtus be to suffer from their effects. From these observations I think we are justified in coming to the conclusion, that the administration of ergot of rye to a woman in labor is attended with danger to the child, whenever a time sufficient for the absorption and transmission of its noxious properties elapses before the child is born; and from the cases above stated I am inclined to place two hours as the limit of safety, and to consider a prolongation of labor beyond that period as perilous to the infant. —*Dublin Journal of Medical Science, May*, 1844.

TOXICOLOGY AND MEDICAL JURISPRUDENCE.

33. *On Poisoning with Sulphate of Iron, by* Dr. Christison.—The author commenced with observing that sulphate of iron, under its vernacular name of copperas, was long thought to be an active poison; that in recent times, however, it had been found in medical practice that considerable doses could be administered without injury; that experiments on animals by Gmelin tended to prove it to be nearly innocuous to the lower animals; but that the latest inquiries—those of Smith and Orfila—showed that it is an irritant poison of no small energy, if it be retained long enough in the stomach.

He then gave an account of a medico-legal case of recent occurrence, which, along with physiological experiments instituted on the occasion of it, illustrates the accuracy of the view of the last mentioned author, and proves that the sulphate of iron is a poison active enough to occasion death in the human subject. A child, four years of age, having died in circumstances which excited strong suspicions of poisoning, an investigation was made by the law authorities nearly four months afterwards. It appeared that the child, previously in good health, was attacked with violent vomiting and purging immediately after breakfast, and died in the course of the afternoon of the same day. The person suspected in the case was proved to have purchased both sulphate of copper and sulphate of iron not long before, and was seen by other children in the house to mix a blue liquid with the porridge, which the child took for breakfast, and also to give for drink after the symptoms began, a liquid of blue color, made by dissolving a saline substance in water. Copper was naturally suspected. Mr. Dewar and Dr. James Dewar, of Dunfermline, who conducted the medical investigation, were naturally led to look for copper in the alimentary canal. There was none found, either by them or, subsequently, by Dr. Christison, who also analysed the contents and textures of the stomach. But there was obtained a large quantity of iron, partly in the soluble condition, but chiefly in the form of a compound insoluble in water. This appeared, in a great measure, to be sulphate of iron, formed by the decomposition of the sulphate through means of the sulphuretted hydrogen and ammonia disengaged during the decay of the body, for water, which had acted on the contents and textures of the alimentary canal, presented evidence of a much larger quantity of sulphuric acid than would have arisen from the ordinary contents; and the whole course of the mucous coat, from the mouth to the anus, was thickly lined with a layer of jet-black mucus. The tissues of the stomach presented everywhere the same color. Iron was also found largely in numerous brown stains on the child's clothes, and on an apron worn by the person suspected to have administered the poison. The Messrs. Dewar made some experiments with sulphate of iron, from which they came to the conclusion arrived at by Orfila and Smith, viz.: that two drachms retained in the stomach by a ligature on the gullet will cause death in a few hours.

It appears, then, that sulphate of iron may cause death; that if the body be buried some months before being examined, the iron, as in the case of arsenic in similar circumstances, becomes united with sulphur, and that the color of the contents and tissues of the stomach is thus changed to a deep black. The process employed for detecting the iron consisted in incinerating the contents and textures, acting on the residue with the diluted nitric acid, aided by heat, adding an excess of ammonia, and transmitting sulphuretted hydrogen. The ammonia separates a yellowish precipitate of sesquioxide of iron, and does not render the liquid blue, if there be no copper. The sulphuretted hydrogen then produces black sulphuret of iron.—*Cormack's Journal* and *Chemist.*

34. *Injury to the Spinal Cord during Hanging.*—Mr. Campbell de Morgan describes the appearances after death, presented by the body of a woman who committed suicide by hanging, she having been previously laboring for a long period under scirrhus uteri, which had ulcerated into the cavity of the peritoneum, and induced inflammation. There not being any indications of dyspepsia or congestion, the spinal column was examined. There were ecchymoses about the deep muscles over the second and third cervical vertebræ, and also in the sheath of the spinal marrow, at a part corresponding to the external injuries. At the left side and exterior of the sheath was an extensive effusion of blood, firmly coagulated. The spinal marrow having become generally softened, it was impossible to ascertain the existence of any particular softening at this part: there was not any appearance of bruising of its texture. The odontoid process was firmly retained in its place, none of its ligaments having given way, nor were there any marks of fracture of the vertebræ, nor of laceration of their ligaments, but there was an unusual degree of mobility between the third and fourth vertebræ, as though the ligaments had been stretched. The head was not examined.—*London Medical Times.*

35. *Prussic Acid.*—The following testimony was given on the trial of Belany for the murder of his wife:

Dr. Letheby.—" I have made numerous experiments with prussic acid upon the lower animals. The first effect which the administration of prussic acid produces upon the lower animals is the appearance of a peculiar giddiness, of a disposition to run round, as if the head was affected; then the respiration becomes irregular; subsequently there is a scream. Perhaps before that scream is uttered the animal drops, at the same moment, after two or three violent respiratory efforts, which produce a cry, a shriek, or a scream; convulsions follow, with foaming at the mouth; and in a longer or shorter time, according to the quantity of the acid administered, death ensues. I have not had an opportunity of seeing its effect on the human subject. After the shriek or scream, all sensibility and volition cease. In my judgment, a person after giving that shriek would not be able to walk or converse."

Dr. Thomson.—"The effects of taking it are those which have been so clearly explained by the last witness: giddiness, faintness, convulsions resembling those of tetanus or lock-jaw, and screaming. When the symptoms have advanced to a scream, the powers of volition are gone. After the scream it would be impossible for a party to talk, so as to describe what had happened."

The evidence which we have just adduced, founded chiefly upon experiments made on the lower animals, could not fail to make a stronger impression on the minds of professional men than on those of persons unacquainted with medicine and the action of poisons. To us, well initiated in these subjects, the prisoner's statement appears wholly unsatisfactory and improbable, [that on forcing open the bottle he had spilled the prussic acid in the room, and that a small quantity had been put in a tumbler which had been accidentally drunk;] but we are not surprised at the judge, after pointedly inquiring of the medical men examined, whether they had ever witnessed a case of poisoning by prussic acid, and receiving a negative reply from each of them, observing to the jury, "The medical men had told the jury, that with the scream that was spoken of all volition and power of speech would cease; but then it must not be forgotten that the judgment of these gentlemen must be tempered with this caution, that none of them had ever witnessed the effects of prussic acid on the human body;" a hint sufficient to impair in no slight degree the weight of evidence, which we have reason to believe was not given without the most anxious and careful consideration of the subject.

In further proof of the improbability of the prisoner's statement, was adduced the striking circumstance, that the landlady and servant who entered the small room in which the deceased lay, detected no peculiar smell, although, if his account be true, some acid was poured into a tumbler, and left for a few minutes in the room. Dr. Thomson stated, "the smell of prussic acid is very peculiar. If any be spilled in a room the odor remains a considerable time, unless there is much movement in the air of the room. If it were in a tumbler the odor would be strong—if it were lifted to the top the odor would be perceived." We have tried the experiment; we have poured a small quantity of the acid (Scheele's preparation) into a tumbler, and after leaving it for five minutes in a small room, have entered the chamber, and we could scarcely believe it possible that any one possessing the ordinary sense of smell could fail to notice the remarkable odor pervading the apartment. We think, then, the absence of all odor of the acid strongly corroborative of the other points which impugn the truth of the prisoner's statement. Had the poison been mixed with the solution of Epsom salts in the adjoining room, carried into the bed-room, and immediately swallowed by the deceased lady, scarcely any smell would have arisen.

There is one point in Dr. Letheby's evidence, which, we think, was either not rightly understood, or not quite rightly used. In his cross-examination by Mr. Erle, he states, "prussic acid is one of the easiest poisons to detect after death." Now, whilst we admit that this is the case *immediately* after death, we know that prussic acid both evaporates so quickly, and so readily suffers decomposition, that we much doubt whether it could be detected in the stomach, even at the end of a few days after death. At any rate, arsenic, the mineral acids, and many other poisons, if not more easy of detection than prussic acid, are yet more permanent, and to be detected after a much longer period. Dr. Letheby probably did not perceive the bearing of the question put to him, and therefore did not answer it in a way that was calculated to elicit the truth. His reply, at all events, was made a point of by the judge, who in his charge certainly omitted no circumstance which could tell in favor of the prisoner; but desired the attention of the jury to it particularly, as it was unlikely that a medical man, contemplating the circumstance of murder, would have selected for his purpose "one of the poisons most easy of detection." We think that he who has knowledge of poisons would select that which he knows to be most speedy and most certain in its operation; which produces sudden death, and whose effects to ignorant bystanders would look like what they conceived to be a "stroke," or a disease of the heart, when told so, that disease being rendered the more likely by family predisposition: a momentary struggle, and six feet of cold earth to make all snug, would be the prisoner's maxim; and prussic acid, backed by the Eastern Cemetery, are the precise elements required.—*London Medical Gazette.*

36. *Arsenic.*—Five individuals were lately poisoned by *arsenic*, contained in some well-water near Vienna. A large quantity of cobalt ore had been lying in a yard in which the well stood, and partly by exposure to air, partly by rain-water, the ore was decomposed, and yielded its arsenic to the well-water. The patients complained of an inclination to vomit, acute pains in the stomach and bowels, burning sensation in the throat, slight fever, thirst, exhaustion, &c. After the use of almond-milk, hot fomentations, and cataplasms, acetate of morphia, and repeated doses of the hydrated peroxide of iron, they soon recovered.—*Takresbericht über die Fortschrette der Gesammten Medicin.*

37. *Antidotes for Arsenious Acid.*—Before Bunsen's discovery, lime-water, hydrosulphuric acid, &c., were used. It has since been shown that—1. A very great quantity of hydrated oxide of iron is necessary for the neutralization of arsenious acid. 2. This combination is innocuous, and easily dissolved by the acid of the gastric juice. 3. That the *crocus martis aperitivus* (dry hydrated oxide of iron) may be substituted for the jelly-like hydrate. The following experiments were made by Sandras, to determine which are the most efficacious antidotes:—1. A small but healthy dog received, in a piece of meat, three grains of powdered arsenious acid; the œsophagus was tied with a ligature, so as to prevent vomiting: death took place during the night. Some submucous ecchymoses were found in the stomach. The spleen and the liver presented considerable traces of arsenic; the blood but little altered. 2. A large, healthy dog received the same quantity of arsenic, and immediately after 350 grains of the hydrated oxide of iron were injected into the stomach. No symptoms of poisoning appeared. 3. A large, lean, strong dog received, in some meat, three grains of arsenious acid, and afterwards a quantity of the *crocus martis aperitivus*, dissolved in water, was injected into the stomach. The œsophagus was tied with a ligature; no symptoms of poisoning appeared, but the dog succumbed from the consequences of the operation. 4. A healthy hunting dog swallowed three grains of arsenic in meat, and immediately after 560 grains of the oxide of iron were dissolved in 1,260 grains of water, and injected into the stomach, and then a ligature was applied to the œsophagus. The dog died on the fifth day, with symptoms of purulent phlebitis, without any phenomena of poisoning by arsenic. 5. Another strong hunting dog received the same quantity of arsenious acid in meat, and then two table-spoonfuls of moist sulphuret of iron, likewise mixed with food. The œsophagus was tied with a ligature. Strong inclination to vomit manifested itself, with much white foam. After four hours these symptoms disappeared, and the dog remains well. 6. The same experiment, once more repeated, showed no symptoms of poisoning; but the dog died, on the 6th day, through hæmorrhage. 7. In another dog, where the sulphuret of iron was not given till forty minutes after symptoms of poisoning appeared, the animal died in twenty-two hours. From these experiments it was concluded, that hydrated oxide of iron and moist sulphuret of iron are the best antidotes for arsenious acid. Sulphuret of iron is perhaps preferable, inasmuch as it may be given, even where the nature of the poison is not determined; for, besides arsenious acid, it also decomposes corrosive sublimate (bichloride of mercury), salts of copper and of lead. As to the form in which the antidote is to be administered, that of jelly is the best. It is considered useful to give a few glasses of warm water soon afterwards, and to tickle the throat in order to promote vomiting. To one grain of arsenious acid, 120 grains of moist hydrated oxide of iron and 80 of the dry *crocus martis* are necessary.—*Ib.*

38. *To Discover Arsenic.*—The following method is employed by Duffos and Hirsch:—If no poison is to be found in substance, and sulphuretted hydrogen can-

not be directed on the mass, solid pieces of the organ are to be cut, and then digested with muriatic acid in a tubulated retort. After the tube has been well closed, the mass is to be distilled in a bath of chloride of calcium, till the contents of the retort begin to thicken. The portion that has passed over into the receiver is then to be taken away, and on the residue left in the retort rectified alcohol is to be poured, and then filtered. The alcohol is then to be distilled off, and the residue mixed with that previously taken from the receiver. Sulphuretted hydrogen is then passed into the liquid, which is then to be left quiet for some time, till the disappearance of the smell of hydrosulphuric acid, and then filtered. The sulphuret of arsenic remaining on the filtering paper is then to be acted on by warm ammonia, evaporated, mixed with nitric acid, and finally dried in a sand bath. The residue is mixed with six times its weight of subcarbonate of potass, and reduced in a proper apparatus by pure hydrogen gas: the metalic arsenic will be sublimed in the cold part of the glass tube.—*Ib.*

39. *To discover Arsenic in the Secretions.*—A series of experiments were instituted by Meurer on a young horse three years of age, to which, for seven consecutive days, a bolus was administered containing fifteen grains of arsenious acid. The urine evacuated six hours after the first dose, and that evacuated fifteen hours after, gave no trace of arsenic. It was not till thirty-six hours after the first dose (six hours after the second one) that a trace of arsenic could be found on the evaporation of eighteen ounces of urine. A little more was found in the excrements on the second day. After continuing the poison for seven days, no more than two or three spots of arsenic, of a metallic brilliancy, could be obtained from the urine and excrements. After the administration of the arsenic ceased, distinct traces of the poison could be discovered in the excrements, but none in the urine. Meurer employs the following method to reduce the organic substances which are to be subjected to analysis:—1. To reduce the uncoagulable organic liquids, he uses chlorate of potash with muriatic acid. 2. In solid substances, as the fæces, the soluble parts are best extracted by caustic potash, and then chlorine is to be passed through the liquid, or they are to be acted on by boiling nitric acid. 3. If the arsenic is entirely combined with the organic mass, as the brain, the liver, &c., the mass is to be incinerated by nitric acid.

To distinguish arseniuretted from antimoniuretted hydrogen, Meissuer exhibited some experiments, the results of which are—Arseniuretted hydrogen passed through an alcoholic solution of potash, soda, or ammonia, produces no change; whilst the antimoniuretted hydrogen soon darkens the solution, and throws down black flakes.—*Ib.*

40. *Comparative Weight and Length of the Fœtus at the Full Time.* By Dr. C. L. Elsbæsser, of Wurtemberg.—In 1000 children he found

13	weighed	from	4 to 5	pounds.	318	weighed	from	7 to 8	pounds.
58	"	"	5 to 6	"	83	"	"	8 to 9	"
17	"	"	6 to 7	"	11	"	"	9 to 10	"

The average weight to be deduced from this is 4 lbs. 28 *loth* (or half ounces). The lightest child weighed 4 lbs. 23 loth, and the heaviest, 9 lbs. 30 loth. [M. E.'s results differ somewhat from those of other authors; for example, M. de Lachappelle met with one child at the full time weighing 3½ lbs. Chaussier, in 1601, found 3 weighing 2 lbs., 31 of 3 lbs., and 97 of 4 lbs., and he also observed others weighing 11, 16, and 17½ lbs. We think, however, with M. E., that these statements of Chaussier ought to be received with a due degree of caution; such cases certainly present very rare exceptions to the general rule.] M. E. found that

The average weight of 100	males	was	7	lbs.	0⅔	loth.
" " " "	females	"	6	"	21	"
The maximum weight of the	males	"	9	"	30*	"
" " " "	females	"	10†	"	—	"
The minimum weight of the	males	"	4	"	28	"
" " " "	females	"	4	"	19	"

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* In several cases.

† In one case only.

Of 200 children

The length in	11	was from	15 to 16	inches.
" "	99	" "	16 to 17	"
" "	75	" "	17 to 18	"
" "	14	" "	18 to 19	"
" "	1	" "	19 to 20	"

The average length of 100 males	was	17	inches	3½ lines.
" " " " females	"	16	"	8 "

The maximum length of the males	among 1000 children was	19 inches	17 lines.
The maximum among the females	" " " "	19 "	1 "
The minimum among the males	" " " "	14 "	15 "
The minimum among the females	" " " "	14 "	9 "

There is therefore a difference in length, as well as in weight, in favor of the male children.

M. E. has also directed his attention to the comparative lengths of the supra and infra-umbilical portions of the body. His observations disprove the statements so confidently put forth by some, that in the child born at the full-time, the umbilicus is the central point of the body.

In 200 children the length of the supra-umbilical portion of the body was

In the males	9 inches	2½ lines.
" females	9 "	0 "

The length of the infra-umbilical portion was

In the males	7 inches	9 lines.
" females	7 "	7 "

The difference of length between the two portions was

In the males	1 inch	3.40 lines.
" females	1 "	3.57 "

In one case the infra-umbilical portion was 3 lines longer than the supra-umbilical; in another (*one only*) they were exactly equal. M. E. has also ascertained, that the distance from the ensiform process of the sternum to the umbilicus, is generally about one inch longer than from the umbilicus to the symphysis pubis. The author also concludes from his observations, that variations in length are much less than those in weight, the former being : : 15 : 20, but the latter : : 5 : 10.—*Henke's Zeitschrift für die Staats Arzneikünde, No.* 42, *tom.* 4, *as quoted in Northern Journal of Medicine, for June*, 1844.

[The Wurtemberg pound is equal to 2.0314 English avoirdupois, and the inch is equal to nearly .94 of an English inch.]

41. *Poisoning by Ornamental Sugar.*—The substance with which the poisonous sugar was taken, was a pudding of the simplest kind, composed of eggs and flour. It would be difficult to state the quantity used by each individual, but as the sugar was so strongly impregnated with the verdigris, a small quantity only would be required. There were five persons in the establishment who took more or less of it. The chamber and kitchen maids were the first to be affected (probably from their using it more liberally); they became sick in about a quarter of an hour. The most prominent symptoms were, severe headache, succeeded by vomiting and purging. After these had in a measure subsided, tympanitis supervened, which in one case was very distressing, her abdomen becoming tense as a drum, which, however, was not very long in subsiding. Associated with the above, was the copper-like taste in the mouth, followed by severe numbness of legs and arms, accompanied with great trembling, especially of the hands, which incapacitated them from holding anything with safety. A little girl, about ten years of age, and who, evidently, had not taken so much of the noxious substance, was not attacked till the next day, when similar symptoms came on, but not in such an exaggerated degree, as in the above cases. But another little girl, who had taken more of it, was very severely affected with all the symptoms, especially the vomiting and purging.

The nurse, an old person, was the last to show the effects; probably she might not have got so much as the former, as she was not affected till the third day, when symptoms similar to the foregoing, but not in such an aggravated degree, came on. Her convalescence, as was to be expected, was more tardy than with the rest, which might be accounted for by her advance in years.

It would be supererogation here to remind medical men, of the duty they owe to their lay brethren, in impressing them with the injurious effects of many of those things which at present disgrace the festive board. No doubt they would often have to speak in vain; but I would hope the day is not far distant, when our rulers will give more care than at present, to the dietetic welfare of the people.—*Lond. Med. Times.*

MISCELLANEA.

42. *Pension to the Widow of Sir Charles Bell.*—Sir Robert Peel has had the widow of this distinguished surgeon placed upon the pension list, and the lady has now an annuity of £100. Lady Florentine Sale, the wife of the hero of Jellalabad, also receives a pension of £500. There is no objection to this. But why should those who have devoted their whole life to the business of discovering the best method of relieving human suffering and of prolonging human existence, be placed so far below those whose occupation is the very reverse? A grudging compensation is their reward during life, and a beggarly pension is the occasional expression of a nation's gratitude, for untiring self-devotion to the cause of science, and the acquirement of a reputation which the country is ever ready to claim as a part of its own, and which for years to come will be contemplated with pride by the intelligent patriot.

43. *Necrology.*—Dr. Haslam, the well known writer on insanity, died recently in London, at the age of 81 years. He commenced his professional career in the Bethlehem Lunatic Asylum, in the year 1795. His contributions to scientific literature consist of "Observations on Madness and Melancholy," published in 1798, "Sound Mind," published in 1819, and lectures on the "Intellectual Composition of Man," published in 1828.—*Amer. Journ. of Insanity.*

44. *Psychological Medicine.*—Professor Otto has lately written on the "Action of different Medicines on the Mental Faculties." He says that ammonia, opium, musk, castor, wine, æther, and the preparations of gold, enliven the imaginative powers, and render the mind more fertile and creative; while the empyreumatic oils, iodine, arsenic, belladonna, and conium, are apt to induce a tendency to melancholy.—*Ibid.*

45. *On the Clothing of Soldiers.* Extract from an article on Military Hygiene, by Frederick Roberts, Esq., Assistant-Surgeon 59th Regiment.

"The circumstances under which I believe the present mode of dress of soldiers to act most destructively are when the men are already laboring under organic disease; and when once organic derangement is established, I consider them to be of all others the most difficult afterwards to protect from a recurrence of attacks, and from extension of disease. A man with pleuritic adhesions, deposition of tubercles at the apices of the lungs, or with thickening of the mucous membrane of the bronchial tubes, encased in tight uniform, with cross-belts and knapsack, must suffer from want of due expansion of the chest; the respirations must make up in rapidity and frequency what the lungs want in capacity. The respiration becomes *puerile*, and tubercles are quickly deposited, or, if already present, their rapid softening follows.

"The anatomy and functions of the skin have been made the subject of much research by modern physiologists, who have demonstrated that it has a very important part to perform, both in the animal and vegetable kingdom; that it is a powerful auxiliary to the lungs in oxygenising and in vivifying the blood, and an extensive emunctory by which the fluid materials that have performed their duty in the economy are eliminated. The importance of its being kept continually in a clean and perfectly free state, in order that it may be able to perform these various functions, has been vividly felt by scientific writers, and has been equally vividly expressed by them.

"The condition of the soldier is such, although he practises certain evolutions in the course of the day and week, as to be unfavorable to due performance of the functions of the skin. It is familiar to all that retention of clothes on the person for a long time favors the accumulation of dirt thereon. The cause of this is, probably, the want of proper circulation of air round the body to promote the evaporation and dissipation of the cutaneous secretions. On guard, the soldier retains his clothes for two days and one night, with little variation. When confined in the guard-room for misconduct, he remains without change for periods varying from twenty-four to seventy-two hours, and probably longer. Indeed, when waiting a court-martial, he is often a week there. The most superficial observer cannot have failed to remark how soon dirt accumulates upon the person of the soldier, whose close-fitting dress prevents the contact of air about his body, and, with what has been advanced above, conduces to irregularity in the function of perspiration. The condition of things termed 'checked perspiration,' said to be produced chiefly by sudden transition from heat to cold, &c., is much favored in the alternations of violent exercise and passive inaction at drill, and on sentry, especially in cold weather. To suppress evaporation, or the physical process of perspiration, extreme humidity, and a high external temperature, are essential; and this condition of atmosphere is found in the sciroc wind in the Mediterranean, and in the torrid zone, where the quantity of vapor contained in the air is much nearer the point of saturation than in the temperate zones, and in consequence of which evaporation is much less than might be supposed from the high temperature. By virtue of this state of atmosphere, again, there is an increase in the perspiration by transudation, which depends upon causes inherent in the living economy, but which may be modified by external agents. Supposing, further, the relative temperatures of the air and of our bodies to be such as to prevent evaporation, there is still here a state of things unfavorable to the healthy condition of the body. According as the sweat becomes abundant, it spreads over the body and forms an external layer, which, intercepting the contact of air with the skin, prevents transpiration immediately from the body. That derangement in the function of perspiration by the influence of physical agents is favored by exposure to relative cold and moisture on sentry, during inspection of men on parades, even during the course of a drill, when not active, and likewise at night, especially during sleep, when the power of regenerating heat is least strong, must be obvious to all.

"Having attempted to show the ill effects of defective clothing upon the soldier's frame, and how little less hurtful it is when wrongly made, I have now, besides what I have suggested should be altered in the articles of dress already in his possession, to propose that the Infantry soldier should be supplied with further articles of clothing. To this I know strong objections will be raised, and amongst others will be the want of capacity of the knapsack (already too weighty) to contain them. It is not the general custom for the Infantry of the line to wear waistcoats and drawers of any material. By the clothing-warrant, the Light Dragoons and Cape-Mounted Riflemen only are ordered to be supplied with flannels; but it is the custom with the Cavalry generally to wear the same, and, indeed, even drawers. In a former part of these observations I expressed a doubt as to the troops at the Cape wearing flannel; the clothing-warrant orders the native corps to wear it, and I have since learned that it is a very general habit among the Infantry to adopt the custom of the colony. In the Infantry throughout the army, it is also more or less worn, either by will or by recommendations of the medical officers.

"The proportion, however, wearing waistcoats and drawers is small, and even this proportion is not invariable in their *constant* use—many throwing them off in summer, and others failing to re-supply themselves when necessary. As these are worn by some, it is reasonable to believe that with little deviation in the disposition of the soldier's kit he might easily be always in possession of a waistcoat and a pair of drawers, or two waistcoats. I have heard that a regiment, lately arrived from Canada, had in use flannel shirts in the West Indies. This approaches to what I should wish to see adopted, but falls short of many desirable emendations in the physical and material relations of soldiers. Better, then, to fulfil what physiology and the anatomical structure of the frame indicates, under circumstances of the great perversion in the dictates of nature which obtain in the life of a soldier. I think he could be supplied with additional clothing, according as the nature of climate and duty varies, and that the alterations already proposed, or such others as meet the principles implied, should be submitted to experiment. When the circumstances under which the influence of dress falls shall be modified, the causes of disease will also be so far removed. A man will suffer less by remaining in the same clothes for twelve than twenty-four hours; or when exposed to cold on sentry, or elsewhere for an hour, or half an hour, than if he was so exposed for two hours. It is presumed that the soldier's clothing will undergo a change sooner than these circumstances; which, however, are not at all uncontrollable. Though, doubtless, very imperfectly demonstrated, it is supposed nevertheless to be not too much to infer from the foregoing remarks, that were the soldier's clothing more abundant and less opposed to the requirements of nature, did it afford greater freedom of action to the functions of respiration, perspiration, and muscular motion, he might better be preserved from the calamities to which his mode of life exposes him at present; that if experiments were made in his favor upon the principles inculcated, it might be a step toward lessening the power of the destructive influences inseparable from his condition."—*London Medical Gazette.*

46. *Action of Coneia on the Blood, &c.*—Professor Hunefeld states, in *Simon's Beitrage zur Physiologischen und Pathologischen Chemie und Mikroscopie*, that a very striking change in the blood takes place on the addition of coneia. It is changed into a dirty, reddish-yellow, greasy mass, in which blood-corpuscles cannot be detected by the microscope. The muriate of coneia does not produce this effect. Serum and albumen also coagulate on the addition of coneia, as do creosote, oil of turpentine, oil of bitter almonds, and some other ethereal oils; whilst others, as the oils of rosemary, peppermint, camomile, valerian, petroleum, and citron, are not coagulated, except water be also added, and the mixture shaken. These differences deserve investigation. Coneia, accordingly, deviates from the other alkaloids in these reactions, and approximates, as would be expected, to the ethereal oils.—*Lond. Med. Times.*

47. *Calculus in the Bladder.*—A case of a very large calculus in the bladder, is reported in the *Medico-Chirurgical Review*, from the Melville Hospital, at Chatham. The patient, a corporal in the Mounted Coast Guard, was under the care of Dr. Rae, deputy inspector; he had suffered for many years from the complaint, and was unable to hold the water for more than a quarter of an hour at a time. On sounding him, a large stone was found, round the apex only of which the instrument could pass; and, examined by the rectum, the finger could neither raise nor pass beyond the stone. When the operation was performed, the stone was found to be of great size, with the thickened coats of the bladder permanently contracted on it. It was found impossible to extract it, the forceps only breaking away fragments from the lower part, and, accordingly, after the patient had been one hour and twenty minutes on the table, the bladder was washed out with warm water, an elastic tube with lint placed in the wound, and he was carried pulseless to bed. Warm punch was administered, and warmth applied to the feet; an anodyne was afterwards given, and in a short time he rallied. The wound was purposely kept open, the stone was occasionally felt, and became looser and less firmly embraced by the bladder. Several kinds of forceps and crushing instruments were employed on other occasions, but failed. After a time, Mr. Fergusson, of King's College, who was attending a lady at Chatham, brought with him two pairs of forceps, lined in their points, and one with a peculiar hinge, with which he had extracted several large stones. On minutely examining the situation and size of the calculus, he was of opinion that it might be extracted, though, probably, with some difficulty. Dr. Rae having requested him to operate, Mr.

Fergusson introduced a pair of his own forceps, and was not long in extracting, although the instrument slipped twice. Several small pieces were removed by the scoop, after which the bladder was washed out with warm water, and the patient, who complained of pain in the back and wound, was put to bed. He had some wine, and a morphia draught at bed-time. Next day, he was free from pain and fever, and ultimately recovered. The stone, including the fragments, weighed eight ounces, and, allowing half an ounce for loss, must have been altogether near nine ounces in weight. It was smooth externally, and composed of circular layers, seemingly of triple phosphate formation, but hard and firm in its interior.—*Lond. Med. Times.*

48. *Stains of Nitrate of Silver.*—A gentleman in practice, in Westminster, has recently succeeded in effacing the stain produced by a solution of the nitrate of silver on the skin by the combined application of the nitric and hydrochloric acids.

2.

American Medical Intelligence.

The Leprosy in New Brunswick.—This disease has excited much alarm in Quebec, Montreal, and other commercial cities and towns on the shores of the St. Lawrence, and elsewhere. We gave an account of this affection in our last, taken from the report of Drs. Skene, Key, Torvaldy, and Gordon, and the Rev. M. de la France. Since that time, we have read the remarks of Dr. Boyle, of St. John's, who sees no reason for believing the disease to be infectious, and consequently is opposed to all measures of quarantine or lazarettoes for those laboring under it as established by the Provincial Legislature, on the recommendation of the medical commissioner above mentioned. The following is Dr. Boyle's account of this disease, taken from the *London Medical Gazette*.

"A representation having been made to the Lieutenant-Governor of New Brunswick, that a disease of a highly malignant and loathsome nature, receiving the name of *Leprosy*, had been discovered among the inhabitants of certain French Settlements in the Counties of Gloucester and Northumberland, in that Province; a Commission, composed of four Medical Gentlemen and the French Clergyman residing in that district, was appointed for the purpose of investigating its nature and causes, and suggesting such measures as might be judged necessary for its prevention.—The Commission entered on this inquiry in March last, and the result is now before the public; and a sum of £1000 has been granted by the Provincial Legislature, to enable the Government to carry into effect the measures proposed.

"As they have 'unanimously recommended the erection of a Lazaretto, the removal of the sick, and their strict seclusion in that establishment,' as means necessary to guard against the extension of this malady, which they consider hereditary, but *contagious*; I have been induced to examine some of the more prominent facts which they have brought forward in support of this opinion; with the view of determining how far it is expedient, on this occasion, and on the grounds exhibited, to have recourse to measures involving extreme hardship on individuals, and not devoid of injury to society, and which ought never to be adopted under the sanction of causes which admit of doubt;—and with what probability of success those measures are calculated to accomplish the end proposed.

"It may, in the first place, be observed, that much confusion has been introduced into medical writings, in consequence of doubts respecting the disease to which the name of *Leprosy* more properly belongs; arising, as is supposed, from the inaccuracies of the translations of the Greek and Arabian authors who treat of this subject, and who have sometimes described, under the same title, three different affections, very distinct in character, namely, the Hebrew Leprosy, a scaly disease; the Elephant, or Barbadoes leg; and the 'Tubercular' disease, now under consideration. It is, however, at present unnecessary to enter farther upon this subject, as the disease in question must be viewed under the aspect presented to us by the cases given in the 'Report,' where it is classed under this last denomination; and, as observations of *modern* date have removed much of the perplexity by which it was obscured, there is less difficulty in assigning to each its proper place in nosological nomenclature.

"The facts collected, and which form the subject of the official document, are interesting; and the cases are detailed with a degree of accuracy and clearness, leaving no doubt as to the existence of a disease which has all the characteristic symptoms of the 'Tubercular Elephantiasis' of modern nosologists, the 'Juzam' of the Arabians, and the 'Lepra Græcorum' of the middle ages, by which its identity is fully established, and which, therefore, need not now be repeated.

"It is stated in the 'Report' that 'no *positive* conclusion could be drawn as to its original appearance in this quarter;' but that, according to the information that was received from the oldest settlers, the first case occurred in the person of Ursule Laudre, about the year 1817, nineteen years after her marriage with Joseph Benoit, of Tracadie, a small French settlement situated in a part of this Province, bordering on the Gulph of Saint Lawrence, and where she went to reside after her marriage. Her father, mother, and their children, *nineteen* in number, appear, with the exception of Ursule alone, to have been perfectly healthy. She was married about the year 1798 or 1799, and having been affected ten years *before* her husband (for, it appears, he also became affected with it), it would be absurd to suppose that she possibly could have received the infection from *him;* neither can we suppose that he could have contracted it from her, or he continued free from it until three years before her death, which happened in 1829; a period of twenty-six years after their marriage, and of his having lived with her about ten years *after* she had shown all its unequivocal symptoms. After the birth of her fifth child, Ursule ceased to bear children; and it is stated that, from that time, her health continued to decline for six or eight years, when the disease was no longer doubtful.

"Upon the whole, other facts stated in the 'Report' are not more favorable to the existence of *contagion* as a cause of this disease, than those already mentioned; for, it is not shown from whom Ursule received the infection, nor is it proved that she communicated the disease to any one, either by direct contact or through the medium of substances imbued with a contagious principle. There is, indeed, no sort of analogy, as far as those facts go, between this disease and those of a contagious nature; in most of which, we can, almost, as it were, detect the contagion in its passage; and it is only by analogy we can reason on the subject. The latent period in contagious diseases is never long—being only two or three days, sometimes less, and seldom exceeding three weeks; whereas, in the present instance, several years of continued intercourse intervened from the first communication with the infected person to the time of its appearance in the individuals exposed.

"As it is admitted by all that 'Tubercular Elephantiasis,' or the Greek Leprosy, as it is sometimes called, is an *hereditary* disease, and, like Scrofula, may pass one generation and appear in the next, when concurring causes favor its development, the taint in one of the nineteen children of Laudre *père* (Ursule) may have been derived from a source to which, at this distance of time, it cannot perhaps be traced; and the case of the only *one* of her five children who was affected must be referred to the same category; while the exemption of the other four, though living in continual intercourse, completely overturns the doctrine of *contagion*, and is in perfect analogy with the facts observed in scrofula and other diseases which are transmitted from parents to their posterity, affecting some and sparing others, according to circumstances not often very evident or easily explained. The case of Frances Savoy is not less decisive. She has a family of six children, and only *one*, a boy of eight years of age, is affected. She herself has had the disease for four years and a half, in a severe form; 'her husband sleeps with her every night, and is in perfect health.' P. Savoy's case is a severe one. He has a wife and four children, but all of them are apparently healthy. The case of T. Robicheau bears equally on the same point. He is about fifteen years of age, and has been affected six years; and his uncle was recently carried off by it; marking, decidedly, *hereditary* transmission in that family.

"It must, indeed, attract particular notice, as a singular feature in the 'Report,' that, as regards *contagion*, so many of the facts related militate strongly against the conclusion which has been deduced from them on this important question.

"The affected district is situated between the Bay of Chaleur and Miramichi River, and the intercourse between it and Canada, Prince Edward Island, Nova Scotia, and the adjoining counties of New Brunswick, has been frequent and uninterrupted; and though the disease was known to have occasionally existed in some parts along the Gulf shore at a date anterior to that assigned to it in the

'Report,' it had not, it would appear, been propagated to any of the above-named places, nor been considered of that importance, or so frequent at the time, as to attract particular notice, or excite any serious alarm; and it is only now, though twelve cases terminated fatally, and, as appears by the 'Report,' after it had prevailed in Tracadie for a period of twenty-seven years, that the attention of the legislature has been called to it as fraught with public danger, and requiring rigid measures of prevention.

"That the original source of the disease is to be detected in any geological peculiarity observable in the tract of country above mentioned, is not very probable; atmospheric causes are temporary, though general in their operation, giving to diseases an epidemic character; and the climate and cultivation of the soil, if not much improved, certainly are not deteriorated. The habits and mode of living of the French inhabitants in that part of the Province of New Brunswick, it may also be remembered, have always been pretty much the same since its first settlement with those in other parts of British North America, except that the fish which constitutes almost their sole article of food is not, perhaps, of the same wholesome quality as among some of their neighbors, owing to their poverty, which often prevents them from procuring the means necessary to preserve it for use. Some further facts, therefore, are wanting, to render our conclusions as to the primary cause of its appearance in that locality satisfactory; and it is to be regretted that it could not now be traced further back than the case of Ursule Laudre, in 1817.

"The inhabitants of this district are of the Norman race, and descended from those Frenchmen who visited North America at a very early period of its settlement; and by whom, it can scarcely be doubted, the disease was brought to this part of the world; and the superb structure erected by Henry II. Duke of Normandy, at Caen, in 1160, for the reception of lepers (but long since appropriated to another use), attests to this day the prevalence of the disease, in former times, in that country, where it had been, in a manner, naturalized since the time of the Crusades. It is of no small importance, therefore, as tending to throw a ray of light on this part of the inquiry, to know that Ursule's father was an 'Acadian,' that her mother was of 'Caraquette,' in the Bay of Chaleur, and her husband from 'Tracadie,' on the Gulf Shore: for it is also known that the *Baie de Chaleur* and the north-east shores of *Acadie* were places where those adventurous navigators first encountered perils; and the disease may have even disappeared for a season, and at different periods from that early date sprung up again among their posterity, who appear still to inherit the original taint.

"From the facts stated, it does not appear what has been the total number of cases from the year 1817, until the present time, although nineteen "*confirmed*" cases were found at the time of their visit; a proportion not exceeding, perhaps, that of any other disease, acute or chronic, which has appeared in this district during an equal period, reckoning from the average duration of the cases recorded in the Report; and it might, perhaps, be also ascertained that the deaths from any one of them were not less numerous than those from leprosy, which, as far as we are informed, amount to twelve.

"Having thus taken a brief review of the principal data furnished by the Report, and on which the Commissioners found their opinion as to the *contagious* character of the disease, which alone could warrant recourse to the seclusion of the affected, and the adoption of Lazaretto regulations and restrictions, it may not be deemed unprofitable or uninteresting, in a question which so deeply involves the comfort and safety of a large portion of society, to quote some *modern* authorities of the highest weight in the medical profession, in support of the opposite doctrine or *non*-contagious nature of this loathsome disease, which is universally acknowledged to be *incurable*.

"In an article in the 'Dictionnaire de Médecine et Chirurgie Pratique,' by Bouillaud, vol. 5, p. 425, he says, 'La contagion a été admise par certains auteurs dans une foule des cas où elle n'existe réellement pas. Quel est le médecin observateur qui ajoute foi maintenant à tout ce qui a été debité, par exemple, sur la contagion de la Lepre, &c.' And again, vol. 5, p. 435, when speaking of isolating the sick and of sanatory cordons, he expresses himself thus: 'Les attaques dont cette mésure sanitaire a été l'objet dans ces derniers temps, paraissent bien fondées, et le moment n'est peut-être pas eloigné, où elle sera complètement abandonné.' To this effect, also, in an article in the same work, vol. 14, p. 19, by Ch. Londe, when speaking of the instructions relating to Quarantine, he says, 'La Lepre arrive, dans *les Instructions*, en quatrième ligne; mais parmi les gens qui ont bien observé cette maladie, aucun aujourd'hui ne croit plus à sa proprieté contagieuse; les dispositions atroces prises contre les lepreux, sont tombées en désuetude, et ces malades sont admis parmi les autres dans nos hôpitaux, sans que jamais on se soit aperçu de la transmission de leur affection.'

"In a paper in the Cyclopædia of Practical Medicine, on 'Contagion,' by Dr. Joseph Brown, we find the following remark:—'There are two other diseases which were *formerly* considered contagious, Lepra Græcorum and Lepra Arabum (Elephantiasis). The former is unquestionably not contagious; and from the observations made by the late Dr. Adams in the Lazar house at Funchal, there is every reason to think the latter equally devoid of that quality.'

"Numerous authorities* might be quoted to the same purpose, but the above are conclusive; and the proofs of *hereditary* transmission are not less clear and cogent.

"Various external causes have been mentioned as producing this disease; and there is a general assent as to the agency of bad food, especially putrid fish, and vicinity to the sea-shore. There is, however, in many instances, the greatest difficulty and uncertainty in accounting for its appearance; and the above, like those of a moral nature, of which a remarkable instance is recorded by the celebrated Alibert as coming under his own immediate care (Precis, &c., vol. 2, p. 84), it is presumed, act chiefly by awakening a latent hereditary predisposition, and it must be confessed some cases baffle all conjecture. The testimony of Sonini and Pallas is referred to by the same author as opposed to the doctrine of *contagion.*

"Having myself seen, some years ago, a well-marked case of this disease, which leads to conclusions in perfect accordance with the opinions of those eminent men, I may be permitted, in this place, to bring it under notice. It occurred in a person about thirty years of age, a native of Antigua. He had labored under it for a considerable length of time, and came to Nova Scotia for the benefit of his health, where he married an interesting young lady, about two years before I saw him. After this he came to St. John, and was under the care of Dr. Boyd and myself for about two months. His breath was extremely offensive, and his hands, face, and legs were covered with blotches and tubercles of a livid, brownish color; and some of them were in a state of ulceration. He afterwards went to New Orleans, in a worse state than when he first left the West Indies; and died of this disease not long after his arrival. During the whole period of his illness, from the time of his marriage, his wife was most assiduous in her attentions to him, and occupied the same bed; but neither she nor any of the inmates of the boarding-house, where they lodged for nearly twelve months, and with whom they had daily intercourse, ever showed the least mark of the disease. He had no children; and after his death his wife returned to Nova Scotia, where she has continued to enjoy perfect health.

"In the course of the above remarks I have purposely abstained from all opinions respecting the operation of contagious miasmata, or the manner of their introduction into the blood, as foreign to the object of the present inquiry; and as chemistry has hitherto thrown but feeble light on the nature of their elementary constituents, or the changes they effect on the circulating fluids.

"Several important organs undergo a morbid alteration of structure during the progress of this disease; but as its pathology is unconnected with the question at issue, it need not now engage our attention.

"It is generally admitted that pulmonary consumption is, according to the common acceptation of the term, an hereditary disease, usually developed by the action of exciting causes. In some countries it is also deemed contagious; and the houses which have been occupied by persons who die of this complaint are always left deserted. In New Brunswick its occurrence is very frequent; and, though not deemed contagious, it may certainly be pronounced incurable. So far, the parallel between it and leprosy is strictly correct; but surely it would not be recommended that those persons laboring under pulmonary consumption throughout the province should be torn from their families and left to die in a lazaretto; nor can it be imagined that any such measure would be proposed to prevent the continuance of so great a scourge of the human race; as it is sufficiently evident how fruitless the attempt must be, by the removal of a few, to arrest the progress of a disease whose germ, unhappily, is but too widely spread among mankind, and whose extinction is beyond the reach of legislative power.

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* Rayer, Bateman, Alibert, Robinson, T. Heberden, Ainsley.

"During the prevalence of the Asiatic cholera in Europe, erroneous opinions regarding its contagious character led to the adoption of similar measures of prevention; but experience has since taught us how useless and unnecessary they were, and how injurious to the interests of society; and the novelty of the disease among us, and its still inexplicable nature, afford the only vindication of the course pursued during that period of general consternation. In no part of Europe was leprosy so prevalent at one time as in France, from the eleventh to the sixteenth century. It is now chiefly confined to the tropical and equatorial regions, being rarely met with in Europe since the seventeenth century; and the advanced and more refined state of society accounts for its gradual disappearance; while greater experience has banished all dread of its supposed contagion, and opened their noble hospitals to the admission of lepers, without distinction, among other patients; and numerous lazarettos of great extent have long been converted into retreats for the aged and infirm, or like purposes of general philanthropy and benevolence.

"I trust it will appear, from what I have said, and the authorities I have referred to, that any measures of prevention which require seclusion of the sick, much less the severity of Lazaretto regulations, are not warranted, on this occasion, by the facts on which their adoption is grounded; and as their uselessness and impolicy have nearly expunged them from the code of civilized nations."

On the Influence of Marshy Exhalations on Phthisis. By Jas. Bryan, M. D., of Philadelphia.—In "Braithwaite's Retrospect" for July, 1844, a quotation from the Gazette Médicale, of Nov., 1843, occurs, in which it is stated that a letter addressed to the Pres't of the Acad. of Med., on the infrequency of phthisis in marshy districts, was read. Messrs. Oliver, Brera, and others, have called the attention of the profession to the fact, that there exists an antagonism between phthisis and marsh fevers. A countryman of our own, Dr. H. Green, of New York, published a very interesting paper some years ago, containing several marked cases confirmatory of this view, in the New York Journal of Medicine and Surgery. A personal acquaintance with Dr. Green, and some knowledge of the localities spoken of, induce me to place great confidence in his statements.

A case, among others, which came under my own notice, gives, in my opinion, additional strength to the testimony. A young lady of delicate conformation and phthisical habit, had labored for some two years under the usual symptoms of incipient consumption. These, from sedentary habits and other causes, became confirmed, and she left the city unable to walk, or sit up any length of time. She went to a relative in New Jersey, who resides on the margin of a marshy stream, whose farm, in fact, embraces a large amount of low ground, fit only for hay and grass. On being removed there, which was only that she might die among her friends, a physician was called in for form sake, without any hope of relief. Contrary to all expectations, at the end of a few months, her night sweats, expectoration, cough, &c., were much relieved, and a slight "show" of the menstrual discharge, which had entirely ceased for several months, took place. At this time she is able to visit New York, and travels over the country among her friends, apparently in a fair way of recovery.

Other cases might be mentioned, but space will not permit. It has occurred to the writer, some of whose family and patients have been relieved by a temporary residence in marshy districts, that if "these things be so," whether, as medical advisers, we might not send our patients (during the spring and autumn months), to reside on the banks of the Schuylkill, among the "haunted houses" north and west of the city, or to the low grounds of Delaware, Maryland, or New Jersey. This would certainly be more convenient than sending them to distant and foreign countries, exposed to the many privations inseparably connected with long journeys. Will not medical men, who reside in miasmatic districts, give their experience in these matters, and inform us of the frequency of pulmonary diseases where malaria gives the prevalent endemic type?—*Philad. Med. Exam.*

Medical Colleges.—As the time has arrived for the commencement of the annual course of instruction in our Medical Schools, we shall improve the occasion by offering a few remarks on the subject.

In the first place, we rejoice to know that the rivalry which exists among our different Medical Schools is an honorable one, and manifests itself, for the most part, by legitimate and honorable means. There has been too much "sounding brass," in the annual circulars sent out by some schools, and we assure those who deal in these extravagant promises, that the game is a hazardous one, and may possibly lead to effects quite opposite to those intended. To sustain any Medical School for any length of time, it is necessary to possess the confidence and esteem of the *Medical Profession* at large, which can only be done by candor, fairness, and liberality, and those who overlook this fact, will discover, perhaps too late, their errors. We are happy to know that these remarks will not apply to the Medical Schools of our own city. The professors, one and all, seem actuated by a sincere desire to advance the honor and dignity of the profession, and inculcate sound medical doctrines, and we argue the most flattering results from such an array of talent, zeal, and learning, so happily directed. Medical teaching is constantly assuming a more practical and utilitarian character, and the speculations and theories of the closet are postponed to the lessons of experience, and the results of clinical observation.

For many good and substantial reasons, we go against all attempts to monopolize medical teaching: indeed we are inclined to think that the whole business of teaching should be thrown open to the profession, if such be the general wish; and since the late repeal of all medical laws restricting the practice, we do not see why it is not virtually already thrown open. Of one thing we are satisfied, that much higher qualifications are required in public teachers now than would have answered ten years ago; and that he who lacks energy, industry, zeal, and talent, had far better remain satisfied with his business, as a practitioner, than aspire to be a teacher of the sciences; otherwise, the ordeal through which he will have to pass will somewhat resemble that which Daniel had to encounter in the den of lions. Indeed it will require other qualifications besides innocence and a virtuous life, to stop the mouths of ravenous enemies, and chain their savage ferocity. Success to medical teaching.

James E. Dekay, M. D., the well-known naturalist, has been appointed Professor of Comparative Anatomy in the College of Physicians and Surgeons in this City. Dr. Dekay will shortly depart for Europe for the purpose of obtaining additions to his valuable museum.

The New York Farmers' Club have published an essay on the history, character and value of fertilizing manure, guano, by D. P. Gardner, M. D. The New York Agricultural Institute, a branch of the above association, propose to commence a course of Lectures, on the first of November, upon Agriculture, Chemistry and Physiology. The former by Dr. Gardner, and the two latter by Drs. Draper and Pattison.

The prospects of a large attendance upon the Medical Schools of this City, were never better than at present. In the "revival of business," those of medical teaching have evidently largely participated; not only here, but elsewhere. The Berkshire Medical Institute musters 150, and Geneva College 200 students.

An article has been received for the Journal from Dr. George O. Jarvis, of Connecticut, upon the subject of the *Principles and Treatment of Fractures and Dislocations*, but too late for its appearance in the present number. It will, however, appear in our next; and we will, in the mean time, give a brief outline of the views contained in this paper. The Doctor, after adverting to the very slow progress which has hitherto been made towards improvement in this department of surgery, is of opinion that the reasons why it has been so, are, that the *principles* on which all mechanical means should be constructed, have been erroneously applied.

For treating fractures he has laid down four rules, which he assures us, when correctly observed, will always restore the limb to its full length and proper shape. The following are his rules:

"1. That position should be given to the limb which will incline the several parts of the fractured bone into a normal line of the shaft of the bone.

"2. That degree of extension and counter-extension should be applied which will give and preserve to the limb its full normal length.

"3. The points of extension and counter-extension should always be confined within the limits of the fractured bone.

"4. The line of extension, etc., should always be made to operate on the limb in the exact line of the shaft of the fractured bone in its normal state."

It was for the purpose of applying these rules, which he lays down as essential principles in surgery, together with another one in the management of dislocations, that led him to invent the Surgical Adjuster referred to in a preceding number of this Journal. The application of this machine, we are assured by him, fully answered his most sanguine expectations.

The principles for the treatment of dislocations are, that "all power applied to reduce luxations should be moveable and free, and never immoveable and fixed. That the limb, under the most powerful extension ever necessary to effect reduction, should be allowed just as free motion as if no force was applied to it, and that many luxations can be reduced by this means which cannot, where the power is immoveable and fixed; and here lies the chief advantage of the Adjuster over every other means of mechanical force; in these the power is immoveable and fixed, while in that it is always free."

Sydenham Society.—Subscribers to the Sydenham Society are hereby informed, that owing to the exhaustion of all the copies of the first impression (1750 in number) previous to the reception of the names of the American Subscription, but *four copies* were sent out, directed to the four gentlemen first on the list, viz.: Messrs. Washington, McLean, Mills and Brooks: which were forwarded as directed. The other subscriptions have been set down to the present year; the publications of which are rapidly going through the press. The Council of the Society do not promise to supply any new subscribers for the past year: but those gentlemen who may wish to have the first year's publications are requested to give me information when their subscriptions for the second year are paid. The names of such persons will be registered in the order in which they are sent in, and if any copies remain of the first year's publications they will be appropriated in the same order. The Council, however, declare that if the number of those who shall express a desire for the first year's publications shall at any time be sufficient to justify it, a reprint of those works will be determined on.

Subscribers are requested to state how they wish their books to be sent.

The works for the first year, are "Hecker's Epidemics of the Middle Ages," and Louis on "Phthisis."

The works for the present year are the works of PAULUS ÆGINETA, translated and edited by F. Adams, Esq., and the works of SYDENHAM.

The affairs of the Society are in a most prosperous condition (the number of subscribers being over 2000), and its prospects of extensive usefulness are continually increasing. In the opinion of the subscriber, it deserves and ought to receive the patronage of the American Medical Profession.

Geneva Med. Coll.
Oct. 11, 1844.
CHAS. A. LEE, M. D.
Local Sec'ry.

Fiske Fund Prize Questions.—The Trustees of the Fiske Fund, in Rhode Island, propose the following questions for 1844–45:—I. "The best mode of treating, and the best apparatus for the management of, fractures of the thigh." 2. "The character, causes and best treatment of bronchitis." For the best dissertation on each of these questions, the sum of fifty dollars will be paid—the dissertations to be sent, previous to May 10, 1845, to Dr. L. L. Miller, of Providence, Dr. T. C. Dunn, of Newport, or Dr. Jabez Holmes, of Bristol.

OUR Printer has directed our attention to the following remarks in the St. Louis Medical Journal, which he regards as of too much importance not to be transferred to our part of this favored Republic, assuring us that the contributors to our Journal need improvement in the chirographic art as much as their brethren at the West. Indeed, we agree with him in opinion, for it would seem almost to need the scrutinizing genius of a Champollion, to decipher the hieroglyphic and demotic characters which constitute the manuscript of some medical gentlemen.

"TO ALL WHOM IT MAY CONCERN.—If a horribly bad chirography be any evidence of genius or learning, then the medical profession can boast as much of these as perhaps any other, that of the law hardly excepted; but we deny that it is a proof of anything, save *carelessness* or a *clumsy hand.* We acknowledge frankly that our own hand is neither very plain nor fair to look upon, and we are consequently charitable to others. This is of but little importance to private communications, where a little guessing may come to the aid of illegible characters, and where the terms used are familiar to the reader. But in essays *for publication, on learned subjects*, the terminology of which is all 'Greek,' except to the initiated, this illegible scribbling is a serious affair."

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4 Leroy Place, Oct. 18th, 1844.

To the Editor of the N. Y. Journal of Medicine.

Dear Sir: Will you allow me through your Journal to direct the attention of the profession to the flexible ivory nursing apparatus, which has been contrived by Mr. E. Dupuy, of the firm of Delluc and Dupuy, of this city? The apparatus appears to me to be admirably designed to protect the breasts of mothers, who suffer from sore nipples while nursing, and the artificial nipple is better adapted to the mouth of the infant than any other which I have seen. I have no doubt that the general use of the instrument would prevent a large amount of suffering.

Yours, respectfully,

ALFRED C. POST.

We have examined the instruments invented by Mr. Dupuy, and are fully satisfied that the artificial nipple is the best invention of the kind in use. Indeed we can scarcely conceive of a better substitute for the nipple, than the flexible mouthpiece which is appended both to a sucking bottle, and a nipple shield. The last mentioned instrument especially, is, independently of its nipple, peculiarly adapted to the condition of those suffering from that distressing affection, sore nipples. Any description would fail to convey a proper idea of it; we must therefore refer to the instrument itself, which can be examined at 581 Broadway.

Professional Courtesy.—Courtesy, which is but an expression of kindness, is the principal ingredient that sweetens the toils and cares and conflicting interests with which life abounds. How cheerless would be our prospects, what the number of impediments to obstruct our path, how unhappy our journey of life, were we to give expression only to those tumultuous feelings which arise from concentrating every thought upon self! Courtesy is the beauteous ornament of social life, and as such has always been cultivated by the refined and educated, and regarded as an indispensable requisite for the perfection of social intercourse. The exercise of courtesy is equally demanded from all, whether it be among those in the kindly intercourse of friendship, or such as are found in the less refined but more necessary meetings of business. Indeed it is more needed under circumstances where self-interest is liable to smother the kind feelings of our common nature, and still more is it required among those whose similarity of pursuits bring their talents and professional abilities in contact and competition.

If there is one class where this especially is the case, and where at the same time courtesy might with reason be looked for, and in whose character it would almost seem to be an indispensable ingredient, it is among the members of the medical profession.

Kindness is the habitual exercise of the mind with those whose necessary occupation is to afford relief to others; and as medical men are of all people those whose opportunities for such exercise are the most frequent, it is among them that we should expect to see it in its most ample manifestation—extending its influence beyond the immediate sphere of their professional duties, and embracing all who are honorably united in their efforts to mitigate the physical evils of life. Kindness of feeling is the germ of real courtesy; an essential part of the latter must be true kindness. Courtesy, in its full signification, is not an artificial, hollow, unmeaning expression of consideration, it is in fact one expression of humility as opposed to the self-importance of selfishness and pride. It has been often assumed, and then cannot be exhibited without borrowing the entire plumage. Thus the immortal bard:

> And then I stole all courtesy from heaven,
> And dressed myself in such humility,
> That I did pluck allegiance from all hearts.

A courteous demeanor towards each other might therefore be very naturally expected to be exercised among the prefessors of an art which is kindness itself in the most efficient manifestation.

Courtesy is indeed indispensable to the character of the physician, in whatever light it may be viewed. By courtesy among each other, their powers of doing good would be increased,—their mutual good-will would lead to a frequent interchange of views on scientific subjects. If it is desired to place the profession of medicine in its most elevated rank and elicit for it the esteem and admiration which are essentially its due, what more efficient method than to adorn it with that evidence of mutual respect among its members which would infallibly mark them as superior to all petty rivalries and contemptible jealousies? If their individual happiness is to be promoted, what more powerful means than the constant exercise of mutual courtesy, which is but the external expression of benevolence? Point out the man that spurns all courtesy from his demeanor and we will mark one where envy and hatred—fell destroyers of all happiness—are secretly gnawing, with the deadly poison of a viper's fang. Such an individual is unfit for the profession of the healing art.

It has been strangely asserted and most extensively believed, that medical men are a jealous set, destitute of courtesy among themselves, that they have no kind feelings towards each other; thus, somehow or other, charging these faults upon them as a class, and consequently making them the natural and necessary effects of the profession they have adopted. Now we believe no such thing. This jealousy is an excrescence—a fungous growth,—and is no more to be charged upon the profession itself than is arrant quackery. It is a part of the wickedness of our nature, and must be participated, more or less, by all men of whatever profession, precisely as charlatanism and imposture belong to men as a race, and not to the professors of the medical art—physic being only used as the medium of deception from its admitting of so great an amount of mystery in its application.

We have seen the strongest friendship exist between medical men, having its origin in professional intercourse; and it is a remarkable fact in the character of all, that an interminable conversation of the most agreeable nature imaginable will ensue upon their meeting either casually or upon professional business. Two doctors meeting and exchanging civilities are almost inseparable.

Finding, then, that the seeds of courtesy exist within the bosoms of our fraternity, it needs nothing more than a proper cultivation to make them germinate and yield rich clusters of fair flowers, whose fragrance will spread far and wide—perhaps even unheeded and unknown in their remoteness, save in the mild and genial influences they produce.

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